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A
TREATISE
OF WARM
BATH WATER,
AND OF
CURES
MADE LATELY AT

Bath in Somersetshire,

Plainly proving that it is more probable to
cure Diseases by drinking warm Mineral
Waters, and Bathing in them, than in
cold Mineral Waters.

By JOHN QUINTON, M.D.

VOLUME I.

O X F O R D,

Printed in the Year MDCCXXXIII.

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TO THAT
WORTHY AND TRUE
BENEFACTOR
OF THE

City of *Bath*;

And Encourager of all the Diversions, and
Pleasures there enjoy'd so necessary to
render the Medicinal Waters efficacious
for the Recovery of Health,

RICHARD NASH Esq;

This Treatise of Baths,
with all Gratitude,
for the many Favours he has
conferr'd on me,
is Humbly Dedicated

By Honour'd Sir,

Your most Obedient,

Oblig'd Humble Servant,

JOHN QUINTON.

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torney in Bath.

BOYL's WORKS Epitomiz'd. Vol. I. p.288.

IN order to a Natural History of Mineral Waters, they ought to be consider'd in three different Capacities: first, as they are found in their Natural Receptacles; secondly, when drawn up for Use; and thirdly, with respect to their Effects on Human Bodies. To the first of which Quæres may be refer'd.

1. Within the Precinct of what Climate, or Parallel, and in what degree of Latitude the Mineral Waters are to be found?
2. To what point these Waters lie open most in their Receptacles?
3. Whether the Ground in which they are found be a Plain, or how much it differs from a Plain?
4. If the Ground be upon an Ascent, how far they are from the Bottom of that Ascent?
5. Whether a Recrementitious Substance adhere to Stones long contiguous to these Waters?
6. Whether subterranean Fires be near such Waters, and what Phenomena such exhibit?
7. Whether Brimstone or Sal-Armoniack &c. be found about the Vents of such subterranean Fires?
8. Whether instead of subterranean Fires, there are other adjacent Æstuaries? and whether such be constant or intermitting? and if so, whether periodical or intermitting? and if so, whether periodical or irregular?
9. Whether Mineral Fumes of particular Colours, or Smells arise from such Æstuaries?
10. Of what Temper the Neighbouring as well as the Soil they pass through is of?
11. Whether and of what Nature those Minerals are of which they pass through?
12. Whether the Mineral Waters be originally fresh, and derive their Virtues from the Soil they pass through?
13. Whether if it acquir'd its Virtues so there were upon the Impregna-

Impregnation any Effervescence? or whether any such Effect succeeded its Mixture with another Liquor.

14. Whether there be a Spring of a contrary Nature near it viz. as to Heat and Cold, as it is observ'd in *France*.

15. Whether an oily, or bituminous inflamable Substance float in it.

16. Whether the Seasons of the Year, or Temperature of the Weather alters them? and what Qualities they lose or acquire by such? for after Rain I have observ'd such Waters incapable of turning a Tincture of Galls Black: but as to its Medicine Virtues, I have found that Rain after long Draughts, hath rather increas'd than diminish'd their Strength by dissolving and diluting those Salts, which were fix'd in the Earth for want of a Vehicle; but if the Waters be weak, and the Rain much, those Salts being the more diluted, renders the Waters less effectual.

17. Whether the Qualities of the Waters may be Chymically, and Mechanically discover'd, as also what Colour, and Weight, and with what Menstruums their Salts may be mix'd? and likewise what Substances they will yield when expos'd to different Degrees of Fire, and what other Chymical Tryals those as well as the *Caput Mortuum* may undergo.

I conceive the Earth to be stock'd with Store of subterranean Fires; and that several Calorifick Qualities, being carry'd up through Clefts and Veins in the Earth, cause a sensible Heat to be diffus'd through the whole, and that there are such Steams, appears manifestly from those Damps, which are often observ'd in Groves; not only in *England*, but *Germany*, *Bohemia*, *Hungary* &c. which are sometimes so Bituminous, and Sulphureous in Smell, as to be apt to take actual Fire.

But one thing I must intimate here, which is that though I am induc'd to believe, for some Reasons this Argument valid; yet I am not without a Suspicion, that notwithstanding the Aptness which these Exhalations have to take flame; yet even several cold Steams may rise from the lower Parts of the Earth, which may acquire Heat in the upper Regions; for we see that several Substances, which are apt enough to take flame, have not the least sensible Heat, in these Parts before; nay, are so far from that, that Salt-Peter which is apt to flame, will, by being dissolv'd in Water, add a considerable Degree of Coldness to it; and the like may be observ'd in Spirit of Wine, whose Spirit
though

though easily inflammable, affects not the Touch with the least Heat, if rais'd in the Form of Vapour. But that which inclines me to be of the Opinion just now mention'd, is, that not only *Morinus*, but several others have observ'd the Exhalations of Mines considerably hot in Summer Time. And the Experienc'd *Agricola* hath observ'd, that the Mineral Steams which pervade the Earth, are so powerful, as not to permit a Hore-Frost to lie upon the Ground which they lie under, and the like has been observ'd upon Coal Mines: I remember that an Acquaintance of mine shew'd me a Piece of Land, which was so powerfully penetrated with warm Effluvia, that Snow would not lie upon above two Days, were the Weather never so cold, which hath been confirm'd by frequent Observations; except where Layers of Rocks, or some other Stony Concretes, obstructed the passage of those Mineral Steams. To which may be added, that the Steams near Gold Mines are so copious in *Hungary*, as to give the Leaves a Golden Colour. But notwithstanding these Instances, I am apt to doubt; that there are several Parts of the third Region, which by Reason of their Remoteness from such subterranean Fires, have not that Heat. But since these Things are but uncertainly guess'd at, none having so great Curiosity, as to be at the Charges to dig deep enough, without Prospect of Gain, I shall rather proceed to consider, that besides the foremention'd Causes there is in some Mines such a Degree of Heat, as cannot be accounted for without another Cause; the Incallescence being so great, as not to be produc'd without the Concourse of some other Mineral Steams, or Water to work upon, and promote the mutual Actions, and Operations of the Volatile, and Active Parts of those Mines; And that such Incallescences may be produc'd in the Bowels of the Earth, I have elsewhere observ'd. But there is one Thing here to be noted, which is, that in Groves which are very Deep, the Air is so unfit for Respiration, as to want a frequent Ventilation; so that the Miners are wont to sink an Air-Shaft as they term it some Paces of the Grove, that the Air passing from the Grove to that, by a Sort of Channel or Ventiducts (which *Agricola* l. 5. & *vi de re Metallica* calls *Cuniculus*) might keep the internal Air in such a Temper as make it fit to breath in, though the Mines were two hundred Yards deep.

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PHyficians do not visit the *Bath*, as I have done in almost all the Seasons for near thirty Years, otherwise I believe they would give it the same Character as I do.

In cutaneous Diseases, all Kinds of Mineral Waters cold, either Purging, or otherwise, are not so safe to be continu'd as those that promote perspiration, with the Use of Antiscorbutick Vegetables. And I have known many Children kill'd by Purges in cutaneous Diseases, and others sav'd in the like Cases, by Fontanells, Diaphoreticks, and cooling Diureticks.

Of *Bristol* Water; this is call'd a Tepid Water, its Virtue is chiefly a Styptick, therefore good in bloody Fluxes, and Diabetes.

I cured a Person of fifty Years of Age of a Diabetes, with *Bristol* Water hot, pour'd on Rhubarb slic'd thin, and Cinnamon, and drank with fine Sugar, as you drink Tea, to be taken once a Week, and two Pints of *Bristol* Water at several Draughts, the Mornings not Purging. And in a flux of Blood, to a Person full of the small Pox, and especially bloody Urine, after other Restringtons in vain, I gave the *Bristol* Water, which perfectly recovered him.

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The Design of my Discourse, is chiefly to encourage the frequent Use of Bathing in warm Baths, and Drinking warm Bath Water, and to prove from the best Writers, Ancient, and Modern that liv'd in hot, and cold Countrys, they cure more Diseases with less Hazard than cold Bathing, and Drinking Mineral Waters naturally cold.

Warm Sulphureous Baths, by Fermentation, and Subterraneous Motion are refin'd; the Earthy Parts subside, and left in the Bowels of the Earth. Hence it comes to pass that the Crudity is corrected, the mineral Light is transparent, it's sulphureous Spirit so Volatile; and with these Properties I could never find any other Water, either in *Germany*, *Italy*, or *Great Britain*, tho' I believe have been at more Expence to satisfy my Curiosity than any other Person now living.

There are now in several Places very ingenious, and learned Physicians who have read Lectures on Water, and publish'd Books with Persons Names of Cures wrought by cold Mineral Waters, and have given them credit; I shall not pretend to contradict what they say, but grant it matter of Fact.

I intend in my second Volume to give more Particulars of all the Baths in the World, and would have finish'd it according to my Promise, had I not been interrupted by the Sickness, and Death of some of my nearest Relations.

My Book is an Abstract of other Mens Works, and therefore have writ in the same Style, and Manner with little, or no Alteration. I intend in my next to translate one hundred Cures, collected by

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by *Guidot*, made at *Bath* in *Somerset-shire*: Also from *Baccius*, the Nature of Sea Water, and medicinal Waters near the Sea; the Virtue of Rain, and all other light, and soft Water; also Rivers, Fountains, Wells, Lakes, &c. near great Cities, or Mountains; of Snow Water, and Ice, and as these require some time, hope my Subscribers will excuse me 'till next Spring.

Of Sea Water, and Earth; taken from *Mr. Miller*, Gardener to the *Botanick Garden* at *Chelfea*.

SEA Water is an Assemblage of Bodies, wherein Water can scarce be said to have the Principal Part; 'tis an universal Colluvies of all the Bodies in Nature, sustain'd, and kept swimming in Water, as a Vehicle.

Dr. Lister considers it as the Fund, or Source out of which all Bodies arise. He gives, in some measure, the Opinion of *Thales*, and *Van Helmont*; and imagines the Sea Water to have been the only Element created at the Beginning; before any Animal, or Vegetable, or even before the Sun himself.

Fresh Water he supposes to have arose accidentally after the Creation of these, and to owe its Origin to the Vapours of Plants, the Breath of Animals, and the Exhalations rais'd by the Sun.

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Poisonous Waters are occasion'd by their creeping through arfenical, antimonial, or mercurial Earths, and being impregnated by their Fumes: such is the Lake Asphaltites, and divers others about the *Alps*, &c, which immediately kill those who drink: but these are most of them fill'd up with Stones, which is one Reason, so few are known.

Saline Waters are generated two Ways; either by a sulphureous, or a nitrous Spirit mixed with the Water in the Earth; if it be sulphureous, the Water is hot; if nitrous cold: for all the Waters that Boil as if hot, are not so, but some few are cold.

Earth according to Dr. *Boerhaave* is that it is a fossil Body, neither dissoluble by Fire, Water, nor Air; that it is insipid, and transparent, more fusible than Stone, still friable, and containing usually a share of Fatness.

There is no such Thing as a strictly simple Earth: Mr. *Boyle* says, that it does not appear, that Nature any more than Art affords an Elementary Earth.

Sand is by Naturalists generally rank'd as a species of Earth, though not very properly.

In that Sand (strictly) speaking are a sort of Crystals, or little transparent Pebbles, and are Calcifiables, and by the Addition of a fixed alkaline Salt, fusible, and convertible into Glass.

Thus a Vegetable being planted either in the Sand alone, or in the fat Glebe, and Earth alone, receives no Growth, or Increment, but is either starv'd, or suffocated; but mix the two, and the Mass becomes fertile.

From

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From the whole it follows, that Water devoid of any Heterogeneous Admixture, consists of exceedingly minute, penetrative, fluid, slippery, solid, ponderous Particles, and consequently approaches near to the Nature of Mercury: And hence that Observation of the ancient Chymists, that Mercury is the only Body in Nature that dissolves; alluding to the menstruous Virtue of Water.

Water is the most insipid of all Bodies: for the Taste we sometimes observe therein, does not arise from the mere Water, but from Salt, Vitriol, or other Bodies mix'd with it; and accordingly, all the Waters that are savoury, as those of *Italy*, &c. and which are recommended by Physicians for medicinal Uses, are always found to deposit a Quantity of these Fossils.

Nor does it appear by any Experiment, that Water has the least Smell, provided it be pure; so that Water might remain imperceptible to us, were it not for our Sense of touching.

Water therefore appears to be perfectly indifferent as to the assuming of all Forms. *Centivoglio* maintains, that if it happens to fall in a Place where there is *ex. gr.* pure Cinnabar, or any other matter, the Water will joyn with them all, and become what they are. Which Opinion falls in with that of *Thales* and *Paracelsus*. And hence it is that Water is call'd a second Mercury.

In the Vapours daily rais'd, we find Water rarefy'd to such a Degree, as to take place in the Atmosphere, and help to compose a considerable part of what we call Air, and even to contribute to many
of

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of the Effects ascrib'd to Air: But such a Vapour has not the Character of true, permanent Air, being easily reduc'd into Water again. So in Digestions, and Distillations, though Water may be rarefy'd into Vapours, yet it is not really chang'd into Air, but only divided by Heat, and diffus'd into very minute Parts; which meeting together, presently return to such Water as they constituted before.

Yet Water rarefy'd into Vapour in an Æolipyle, will, for a while have an Elastic Power, the great and last Characteristick of true Water; and Steam out perfectly like a Blast of Air. The Elastic Power of this Steam is manifestly owing to nothing else but the Heat, that expands, and agitates the aqueous Particles thereof; and when the Heat is gone, the Elasticity, and other Properties disappear.

Rapid Winds thus made, seem to be no more than mere Water, broke into little Parts, and put into Motion.

Mr. *Marriott*, in his Treatise of Hydrostaticks, tells us, that there is in Water a Kind of Viscousness, which makes its Parts stick to one another, and to other Bodies, as to Wood, and clean Glass, &c.

OF METALS.

Boerhaave Collegium Chymicum, Part II. p. 19.

THere hath hitherto been discover'd no more than six simple Metals: Gold, Silver, Copper, Tin, Iron, and Lead. p. 20. The ancient Philosophers insert'd Mercury in the List, although as it has

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has no Pretensions to Hardness, Ductility, or Fixity, it must be a Thing of quite another Sort: yet the Place of its Production, its Weight, Simularity of Parts, and easy Union with Metals have given Rise to a very old Opinion, which still gains ground, that it is the principal Matter of all the rest.

It is observable that most of the Physicians, and Philosophers that prescrib'd a long Life, dy'd themselves before they came to old Age. The most sure way to enjoy Health, and have the Blessing of long Life is to beg earnestly of God Almighty, and then probably the Means may be successful: and to prepare you for another Life, please to receive Addison's Maxims, Part II. p. 38.

MA N walketh in a vain shadow, and disquieteth himself in vain, courting Happiness in a thousand Shapes, the faster he follows it, the swifter it flies from him. Almost every thing promises Happiness to us at a Distance. Such a step of Honour, such a pitch of Fortune, or a Match for a Child: But when we come nearer to it, either we fall short of it, or it falls short of our Expectation. It is hard to say which of these is the greatest Disappointment.

To the merciful Providence of God we owe, that whilst we continue in Life, we have any comfortable Possession, and Enjoyment of our selves, and of that which makes us Men, I mean our Reason, and Understanding. That our Imagination is not let loose
upon

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upon us, to haunt, and torment us with melancholick Frights, and Fears; that we are not deliver'd up to the Horror of a guilty, and gloomy Mind; that every Day we do not fall into Frenzy, and Distraction, which next to Wickedness, and Vice is the worst Calamity, and saddest Disguise of humane Nature.

Happy is that Man, who in the Days of his Health, hath retir'd himself from the Noise, and Tumult of this World, and made careful Preparation for Death, and a better Life, as may give him that Constancy, and Firmness of Spirit, as to be able to bear the Thoughts, and Approaches of his great Change without Amazement; and have a Mind almost equally poiz'd between the strong Inclinations of Nature, which makes us desirous to live, and that wiser dictate of Reason, and Religion which would make us willing to die whenever God thinks fit, there is Reason enough. we should be contented to die in any Age of our Life; if we are young we have tasted the best of it, if in our middle Age, we have not only enjoy'd all that is desirable of Life, but almost all that is tolerable, if we are old, we are come to the Dregs of it, and do but see the same Thing over again, and continually with less Pleasure.

The

The PRAYER usually to be said before

BATHING.

AS Thou hast most mercifull Father, of
 thine infinite Bounty and Grace, given
 us Power to come to these thy Bathes,
 (preordinate of thy divine Providence)
 for the Benefit of us thy dear Creatures;
 so likewise rightly we confess, that the Breach of
 thy most holy Laws, which we have so often done,
 is the very Cause, that we are so vexed, grieved,
 diseased and enfeebled, as a just Cross for our Mis-
 deeds, seeing that to the third and fourth Genera-
 tion, thou hast said, thou wilt them visit. Howbeit
 we hope in thy Mercies, unto the which, as unto
 a safe Anchor we certainly trust: Taking comfort
 of thy heavenly Word, that whom thou chastisest,
 thou lovest. So love us, good LORD, that we un-
 feignedly trusting in thy Word, the second Person
 in the Trinity our Redeemer, and calling on thee in his
 Name, (in one Unity) may be relieved, comforted
 and eased, as thou in thy Word hast promised (if it
 be thy most gracious Will) of all our Grievs, whether
 they be inward or outward in Body or Mind. By
 the Benefit whereof all the Atheists, Godless and care-
 less of the World, may know thy Power, that from
 thee cometh Health to all Nations; for from thee
 cometh all Knowledge, how to use thy Creatures
 for our Uses best. Grant therefore good LORD,
 the healthfull Spirit of Truth, the Holy Ghost to
 help aid and assist us in all our Afflictions, and to

A

guide

guide the Ministers, naturall Interpreters, Physitians,
 with thy heavenly health, that they being strengthen'd
 by thy Influence, may not only the better benefit
 us, and the certainer assure us of thy Gifts here
 and elsewhere, but also the better aid, and assist us,
 seeing they be thine appointed Counsellors, as they
 whom we cannot be without, as thy lively Word
 teacheth: so then strengthen these Bathes, teach
 them, and assist us, good LORD, that what is pro-
 fitable for our Benefit, may be here had, they may shew,
 we seek, find and observe: what hurtfull they may
 declare, we refrain and withstand. This grant, eter-
 nal Father, through the Blood of the immaculate
 Lamb, JESUS CHRIST, that we departing hence,
 better in Health and Strength thereby may glorify
 Thee, over all the World the more, to whom with
 the Son and the Holy Ghost, be all Glory, Praise,
 Dominion and Power for ever and ever. Amen.



JOHN
 help aid and assist us in all our Afflictions, and so
 guide

JOHN JONES of *Bathes Ayde* 1574.
 A Catalogue of Authors as a Testimony in
 his Works.



ARISTOT.	Joannes Almenar
Avicen.	Lactantius
Averhois	Matth. Westmo.
Archigenes	Martinus Roland
Albertus	Mileus
mag.	Melanchton
Ambrosius	Montanus
Aetius	Martinus Curtels
Baptista Mont.	Orbatus
Beda	Plato
Basilus	Plinius
Balus	Paulanias
Democritus	Rentiphilus
Dares Phrygius	Razis
Empedocles	Seneca
Erasmus	Strabo
Fallopilus	Scribonius Largus
Galenus	Savonarla
Georgius Agricola	Tullius
Hippocrates	Theophilus
Joannes de Dondis	Theophrastus
Jacobus Sylvius	Vitruvius

The

The first Book of *Bathes Ayde* p. 2.

Natural Bathes be those which flow thorow the Bowells of the Earth, taking theyr Effects, of the Vertue of such Things as they run by, and receive Power of, for many infirmities most avaylable; of these some be fervent hot, some luke warm, some between both, some not at all, some of Brimstone, some of Allume, some of Lead, some of Salt, some of Copper, some of Iron, some of Lyme, some of Gould, some of Silver, some of one Kind of Commixtion of Mynerals, some of another, and sundry of these are found with us.

3. The chief Spring of Bathe is in the Churchyard, then dedicated to *Minerva*, and after constituted the Abbay of the Monks of the Order of St. *Benedict*, as saith *Beda*, *Basyl*, and *Bale* in *historiarum libris*, erected first by *Blæid* in *Cloyeth* or *Badudus magus*, that wyse Magycian, a Brittain, the ninth King after *Brute*, about the year of the World, according to the Accompte of the Scripture, 3080, before the incarnation of CHRIST 890, *Heliseus* then a Prophet in *Israel* the Sonne of

1 *Ludhurdebras*

son of

2 *Leil* the son of

3 *Brute* Greanshild the son of

4 *Ebranc*, the son of

5 *Mempria*, the son of

6 *Madan*

- 6 *Madan* the son of
- 7 *Lorine* after whom the Britains or Welsh-men call *England* *Loygar*, the son of
- 8 *Brute* the first Reducer of this Land to a Monarchy which arrived at *Dodnes* now call'd *Totnes*. He builded *London*, and named it *Troy* new-eth, altho' our common Chronicles call it *Troy* novat, for want of Skill in the British Tongue, as they do *Totnes*, for the one signifieth *Setnier* in Welsh British or *Corni*, the other new *Troy*, which was the son of
- 9 *Silvius Posthumus* the son of
- 10 *Ascanius*, the son of
- 11 *Tros* builder of *Troy*, the puissant State which after had Wars with all the mighty Princes of *Greece* for 10 Years 6 Months, the son of
- 12 *Eriktionius* the son of
- 13 *Dardanus* called the son of *Jupiter* (as *Dares Phrygius* the Greek Writer testifieth) as I conjecture for a Sirname of Vertue by the Name of God, as the ancient Poets and Philosophers were wont to call good Princes, as such others as their Countries did profit with some new Benefit for the Common-wealth.
- &c.* the son of
- 14 *Cambabablaston* the son of
- 15 *Altheus* the son of
- 16 *Tuscus* the son of
- 17 *Labien* the son of
- 18 *Messeram* the son of
- 19 *Cham* the son of
- 20 *Noe* of whom sprang 72 Generations; of *Japhet*
15, of

15, of Sem 27, of Cham 30; of Cham and Japhet descended the Gentiles, on whom this Genealogy standeth, the son of

21 Lameck the son of

22 Methuselah the son of

23 Enoch the son of

24 Jared the son of

25 Malalel the son of

26 Cainan the son of

27 Enos the son of

28 Seth the son of

29 Adam and Eva. From Noe we have followed the Septuaginta, as they did the most probable Histories untill Noe.

6. Concerning the Nobleness, Genealogie of the Founder, Antiquitie of the Brittaines, and Orygine of these our Bathes, of *Bathe* we have spoken somewhat. It resteth that in a Word or two be declared they'r Excellent properties, and worthie Effects, Ayde full in deed, in the most sort of Infirmities, Accidents, and Greefs, which saith *Galen. lib. de Symptomatum differentiis*, is the sealing of a Thing contrary to Nature, and after *Avicenna in Canonibus* they be these, Striking, Breaking, Lewsing, Ytching, Smarting, Pricking, Shrinking, Streaching, Perfing, Beating, Greavouse, Yeaby, Byting, Tying, Stunning, or Sleeping. And for the Diseases following.

r Mor-

- | | |
|--------------------------|------------------------|
| 1 Morpheus | 30 Dropping of the U- |
| 2 Scales | rine |
| 3 Scabs | 31 Diabetes |
| 4 Scurfe | 32 Tenesmus |
| 5 Wheales | 33 Collycke |
| 6 Pustles | 34 Flyxes |
| 7 Byles | 35 Hemorrhoides |
| 8 Apostemes or Swel- | 36 Pyles |
| lings | 37 Fevers interpolate, |
| 9 Ulcers | that come of melan- |
| 10 Tettters | choly or fleam, en- |
| 11 Ring Worms | tring the Bathe two |
| 12 Lepryes | Hours before the |
| 13 Pockes | Fitt |
| 14 Gouts | 38 Hardness of the |
| 15 Joyntaches | Spleen and the swell- |
| 16 Paulsye | ling thereof |
| 17 Apoplexyes | 39 Swelling of the Ma- |
| 18 Fauling Sicknes | trice or Place of |
| 19 Shakynes | Conception |
| 20 Nummes | 40 Hardness of the Li- |
| 21 Cramps | ver and coldness |
| 22 Destillations | thereof |
| 23 Rheums | 41 Windiness |
| 24 Roses | 42 Hardness |
| 25 Whoresnes | 43 Barennes |
| 26 Coughs | 44 Over sleepiness |
| 27 Running of the Eyes | 45 Coldness |
| 28 Running of the Eares | 46 Wasting of Seade |
| 29 Singing or Ringing of | 47 Green Sicknes |
| them | 48 Hydrophyes |
| | 49 Cold- |

49 Coldness of the Brain 51 The Sleeping Sick-
 50 Lack of Memory ness.

Bathes Ayde lib. 1. p. 8.

Moreover to prove that they were in use to be drank, both before *Galen* his Tyme, and since, by the Dyscourse following, it may most evidently appear.

Scribonius Largus, who was *Galen*'s auncient, approved to be drank for the Ulcers, and Swellings of the Bladder, Water, wherein Iron was quenched, and this he did, as he affirmeth, to imitate the properties of the Bathes of *Ferrara*, as you may reade in his 146. ca. *Archigenes* also proveth, as testyfieth *Aetius*, lib. ij. that Waters of Bathes were used, to be appointed to be dronk, for the Effects of the Bladder, of the most ancient Physicians.

Oribasius likewise appoynteth the Use of drinking, both of hot, and cold Bathes in *collectationes ad Julianum Imperatorem*. *Pausamus* doth shew, how that the People *Cynethensis*, used to drink of the medicinable Well called *Alisson* for the byting of madde Dogs, in *Archadicis suis*. *Vitruvius* entreating of the Waters of Bathes proveth, that by reason of Bitumen, and Nitre they were dronke, for purging of the Body plentifully: lib. nono. What need many Words? in the Tyme of *Augustus Caesar* the Water of Bathes were in great Use to be dronke; at what Tyme, Physicians flourished, not only in the high Court of *Rome*, but also over all, as precious Stones set in golden Ouches. Finally *Plinie* sheweth that

that the Waters of Bathes, of Nitre, and Allum were often dronk for the Purging of the Body, *lib. iij. Histor. Nat.* the which *Gabriel Fallopius* most reasonably confirmeth. *lib. de mediatis aquis.* Howbeit none of all these Writers, nor any other that I can hear of, do make any Mention of our Bathes in *England, Brittain,* or if any do, it is unknowen, and also insufficient, without probable Reason, why such Vertues, should proceede from them: considering it were th'argument of blunt wits, and also of feeble Understanding to judge the Nature of our Bathes, for any Cause they have uttered of theirs, not knowing ours: seeing *Plato* wylleth as may appear by his reasoning with *Socrates*: that every Matter probable, must be reasoned to and froe, that so by our Sences it may be knowen, if for Philosophers we will be accounted and not for rude Emphyrikes in *Phaedo*, the which Thing also *Tully* affirmeth in these words, *Speculator, Venatorque naturæ Physicus*: the Physicion is a Viewer, and Searcher out of Nature, wherefore according to my Capacitie, desyring of the original Causes of Things, a Lover of Wisdom may not be so satisfied, but rather seek further, for the efficient Causes, ymediate, mediate and material Causes, with the Commyxtions of Myneralles, Qualities and Temperatures of Faculties, and Degrees as well by Authoritie and Reason as by Experience, as in the next Bookes shall appear, seeing they be accounted most happy, which do best attayn to the knowledge of the Causes of Things, for *felix, qui potuit rerum cognoscere causas*, otherwise myght Phantasie stand for Understanding.

B

ing, and wilful Opinion, for absolute Reason.

JONES of Bathes Ayde lib. 2. p. 9.

Mileus the Philosopher, hath spoken in this case, and hee said the Cause through which the Waters of Bathes were heated, is none other than a winde, heating in the Depth of the Earth, and in the Hollownesse which be in the Bowells of the same. Wherefore that Heat reboundeth upon the Water, and so giveth that Heat.

Rentiphilus and *Theophrastus* in this point bee contrary to *Mileus*, and the World follow'd them who say'd, the Earth in those Places is very thinn, and not of conjuncte parts, so that the Heate of the Sunn entring, heateth the Water in the Hollownesse of the Earth, and in the Caves, and Trenches, which be in the Depth, by many whereof it commeth forth Hot.

Democritus contrariwise say'd that the cause of hot Bathes is, for that in the Hollownesse of the Earth there be Mountains of Chalke, and heapes of Ashes, which when the Water doth run upon, it is heated, and so the Water passeth out, upon the Face of the Earth &c.

Seneca and *Albertus magnus* affirme, that the immediate or efficient Cause of the hot Bathes is for that they run upon a Myne of Brimstone, and thorow it are heated. And this Opinion they, and also *Savonarola* with many other would father upon *Aristotle*. Howbeit so great a Philosopher, could not so much

much as think it; the reason is, bycause they had read in a certayne Book ascribed to *Aristotle de proprietatibus Elementorum* that Waters of the Bathes flow hot because they pass through a Mine of Brimston, which Book to have been none of his, it may appear by other Places, in his Workes, wherein he freely protesteth a contrary Judgement, as in *secundo meteore in problemat. 24. Sectione 17. Probl.*

The last and truest, is the Opinion of *Aristotle* who supposed that the Waters of Bathes, were made hot, of a most strong, and fervent Cause, which hee supposed to be none other than Fyre included in places under the Earth: and that Fyre is under the Earth, it may easily appear at *Eclan*, in the Ile of *Jeland*, and at *Variagazzo* and *Florence* in *Italy*, and also in *Sicilie*, and between the great Seas; also in *Darbyshire*, with infinite other Places besides.

Now that the Truth and Fallhood of the aforesaid Opinions may more clearly appear, the divine Godhead, first called upon, we will lay down this Foundation, that all simple Water essentially challengeth unto it self especial cold; for it is of cold Elements the chiefest, as the Prince of Philosophers declareth, and as hereafter it shall be made manifest, in the Table of the Things naturall in the third Book.

But Jones says no such things of heating, cooling, moving, or drying, or by any other means furthering the same as you may perceive by your own outward senses.

JONES lib. 2. p. 10.

Moreover let this be a principle, that all Water heated, must be suppos'd to be, by Vertue, and Essence, cold, for all such so demiss of Nature, returneth to cold, and by Experience we do prove; for if it be taken in a Vessel out of the Spring, it waxeth cold, whereby it is inferred that the Waters of Bathes, by some other meanes become hot, must be by proper Essence and Nature, *virtualiter* cold, *accidentaliter* hot.

Furthermore seing Water is so cold, as in the last Degree the Qualitie disproportionated with so great a Degree of Heat, as is the Degree of fervent Heat, cannot be induced but by an especial Heat. So that likewise it is inferred, that it is not so heated by a Wind heating it, as it pleased *Milene*, nor by the Heat of the Sun, as it pleased *Lentipbilus* and *Thesmophilus*, nor yet because it is upon a Mountayne of Chalk or Ashes, as *Democritus* suppos'd, seeing these can bring nothing to pass, beyond their own proper Degree, while they work according to Nature, except it work upon some Subject, which is like to the Worker, and so by affinity receive the Impression, as the Light by the brightness and clearness of Diamonds, Saphirs, and Christal, and such like strengthening the same, but in these, of them aforeledged there is no such aptness of heating, cooling, moystning or drying, or by any other meanes furthering the same as you may perceive by your own outward Senses.

Senses. Besides the Heat preserved, becometh more mighty, being joyned to Dryness, than to Moisture, seeing Driness doth whet and sharpen Heat, contrariwise Moisture doth dull it, as you may also easily gather.

Lastly, actual Fire, working upon the Water itself, cannot put into it a greater of Heat, the Water itself remaining, than the Degree of fervent Heat. Experience doth verify the Supposition, whereby it may be infer'd that the Water of Bathes cannot be brought to so great a Degree of Heat, by hot Vapours under the Earth, nor yet from their Dashing from high Places and craggy, for then the Waters descending out of the cragged Rocks in the high Hills, in *Kayer Naruayne* Shire, then called *Withua*, and out of the raven Crack in *Cumberland*, should through their long Course and violent Tossings become hot. But Experience proveth the contrary, therefore dashing together, and Passage of the Waters through stony Places is not the immediate Cause of the Heat of the Waters of Bathes: Seeing the Effect, lastly is Fire, neither be Vapours or Dashings matchable to Fire in Heat, so that from them, such an Heat cannot proceed. Wherefore it shall be shewed that if it be heated, their Heat shall be of none other Means, but of Fire. And seeing Fire doth so Heat, it ensueth, that in the Bowels of the Earth Fire may be found: Which as we said, shall be farther approved both by Experience and Reason.

Avicen and *Averrois* do permit, that Elements are formally in Things mixed, which Thing we leave

wor-

worthy to be granted by their Authority: so that then thus wise we will argue: it is an harder Thing for Nature to bring forth in the Bowels of the Earth a Thing mingled perfect, than a Thing simple perfect; which as a Thing mingled thus wise, cannot be produced without the simple, seeing it is presupposed: but Nature can do the first, seeing it bringeth forth Gold, Silver, Brimstone, Salt Peter, Alum, Iron, and all other Minerals, *ergo*, it can do the second; *ergo* it can bring forth Fire also. And the Cause of the beginning of this Fire, is none other then that which is assign'd *Arist. in secundo meteor. capite de terræ motu*. And it is an Exhalation, hot and dry, included in the Concavities of the Earth, where it seeking a Passage out, and not finding, it is labour'd, being so labour'd, it is rarified, and being rarified it is kindled, because great Rarefaction standeth with great Heat. If therefore it happen that where such Vapour is included, and after the Manner as is said, inflamed, if I say it happen, that there be Metal of Bitumen or Sulphur, it is also kindled, and the Fire is so long preserv'd, as the Matter feeding it shall not fail, which Matter feeding must now be searched out, because it is not yet evident, what it is, and also many of those which do follow the Opinion of *Aristotle* concerning the Cause, preserving the Fire under the Earth, do disagree, altho' all do confess, that this Fire under the Earth, hath some Subject preserving it, and that this Fire is the Cause of the Heat of the Waters of Bathes, hereafter shall appear more evidently.

Johan-

Johannes de Condis, an excellent learned Man, and a pure Peripatetick, hath made a very goodly Treatise of the hot Wells in the Field of *Padua*, and there amongst other Questions, he moveth this: Whence it is that the Waters of Bathes do spring hot? He answereth at the length with *Aristotle* and faith, that the Cause is Fire under the Earth, and that such Waters do flow perpetually hot, because the Fire is perpetually preserved in those Places under the Earth: after he demandeth what is the Cause preserving, and answered (whereunto very ignorantly *Savonarola* cleaveth) that is is Heat, excited of the Stars, in the Face of the Earth, which Heat he affirmeth to be not only the Cause preserving, but also the efficient, as it were: and the Material and Subject of the Fire, he supposeth to be an Exhalation hot and dry, that is Wind. And because the Wind is still ministred, therefore that especial Fire is perpetually preserved, and perpetually heateth the Waters. Afterward he demandeth of the Place of that Fire under the Earth, and faith that it is not in the Center of the Earth, because then it would easily be corrupted, for the Earth is there most pure, and therefore the Vertue doth more flourish, so that it is most cold, neither is the Place of the Fire under the Brim of the Earth, for if it were there contained it would burn up the Plants, and whatsoever is in the Face of the same, and therefore he concludeth that it is in the middle Hollownes, between these two Extremes, that is, between the Center and the Face of the Earth, and he addeth that this Place where the Fire lyeth is distant

distant from the Face of the Earth xxx Miles, whereby it appeareth, that he would have the Sun to peirce the Earth by the Space xxx Miles. But this Opinion is false, because if the Beams of the Sun shou'd keep Fire under the Earth: it must first pass thro' the Face of the Earth, and then pass Part after Part, until it came to that especial Heat, and so afore it comes to that Fire it would burn whatsoever it found on the Superficies of the Earth. But admit that this heavenly Heat, passing thro' the Superficies of the Earth doth not burn all that it encountreth, yet it will not preserve the Fire, because it is xxx Miles distant from the Superficies of the Earth, as he saith, towards the Center before the Heat of the Sun Beams came thither, it will be slack that it will not be warm. Therefore the Opinion of *Joannes* is false againe if Fire under the Earth, that is this Flame, and especial Heat, were perpetually preserved, of the heavenly Heat, it would ensue that in cold Regions, Waters of Bathes would not be hot; but in hot Regions they would be most fervent hot, because in cold Regions, there is but small Reflections of the Beams of the Sun for which Cause they be cold. Therefore the Heat of the Sun in them cannot be hot, that it would minister to the Fire under the Earth so strong a Heat, but in the hot Zone there would not only be so great a Heat, that those Waters shu'd be most hot, but also all Things shu'd be burned. But daily Experience proveth the contrary, and also the Authority of *Marten Curtesse* in his Book of Navigation to *Charles* the fifth Monarch.

If

If therefore, the heavenly Heat was the Cause of Heat under the Earth in cold Climates, hot Waters would not flow, but always cold, and in hot Regions, they would burst out most hot, yet the Consequent is false, because there are found hot Bathes in the cold Countries, as is shew'd afore. Also in the Fields and Lakes, there be most hot Bathes, altho' the Place all the Year, for the most part is cover'd with Snow, as testifyeth *Fallopins*; what need we seek for Examples so farr off. Our Country is colder than *Italy*, yet at *Bath*, S. Vincents and Buckstones always they flow hot; but if the heavenly Heat were so reflected, Snow would first be melted, but that is not so, for the Snow sometimes continueth longer, sometimes shorter. Let it be that the Sun Beams may be hot in the Face of the Earth by Antyparistasis, yet there cannot be so great Antyparistasis made in the Summer. Again if the Opinion of *Joannes* be true, the Discommodities which are aforesaid, should ensue of the Opinions, of them which did say, that the Waters of Bathes were hot through the Heat of the Sun and Wind. Moreover the Opinion of *Dondis* appeareth false, by that he supposeth one Thing very false, that the Heat of the Sun, heateth under the Earth xxx Miles, which thing is most false: For at our being in Wookie Hole, besides Wells, and Pool Hole, besides Buckstones in the chief of Summer, those Places were right cold; yet not half a Mile from the Sod or Turf of the Earth. Also *Theophras* in his History of Plants, affirmeth that the Roots of Trees or Plants do stretch so farr into the Ground

as the Heat of the Summer doth pierce; where he sheweth that some said the Roots of Trees did countervail the length of one Foot and an half, which Opinion there also he confuteth worthily; for it is more than Manifest that many Trees do take deeper Root, as the Oak Trees, Pine-Trees, Larix-Trees, Ash-Trees, and Plane-Trees, with infinite others; howbeit for the length of the Roots of the Plane-Trees, he reciteth as a Miracle, because it stretcheth direct downward under the Earth 33 Foot, which in other Trees do not, though they be perhaps longer. Therefore seeing the Roots of Trees do not descend deeper than 33 Foot, and that also to be Miraculous, it plainly proveth that the Beams of the Sun cannot pierce deeper, seeing the Heat of the Sun under the Earth, he would make the Cause of their length, and of the Heat of the Waters of Bathes, which are proved to flow out of deeper Places. Therefore the Opinion of *Joannes de Dondis* is altogether false. Other some there be following the Peripateticks, that would shew the Cause of Fire to be a Subject, seeing such Fire perpetually which always preserveth it self, but afterwards with that feeding should be, there is a Difference between them. Some of 'em say it is Allum, and the Reason by which they are moved, is because the Fire is perpetual, necessarily there requires some sound Nourishment which should last long, and that they say is Allum, because it is hard and compact of Substance, it cannot easily be consumed; *Vitruvius* was the Author of this Opinion in his eighth Book. But this Opinion is false for there is only a double Substance, which may be the Nourish-

Nourishment of this Fire; one truly oily and fatty; and the other thin and dry, replenish'd with much Air; but the one easily catcheth Fire, and long keepeth it, and the other altho' it be easily kindled, yet it keepeth not the fire long, as it appeareth in Sticks, Straw and Chaff kindled, and like matter. Let us now see whether Allum (as some would have it) may be reduced to the one or the other, or no; truly I cannot see, how it may be reduced as in the 13.

To the first, seeking it hath no oily thing in it nor fatty, nor to the second, because Allum is of a strong Substance, although it be dry, yet that driness is earthly, not airy; and if it should be in the Fire 20 Years, it would never be inflam'd, as you may prove if you will not believe me. Therefore the Opinion of *Vitruvius* is false. *Georgius Agricola* in his Book which he hath written *de Subterraneis*, which is truly a very fair and most learned Book, as be all the other, which that learned Man hath divulgated, saith, that the Subject preserving Fire under the Earth is Bitumen, for to this he saith, something must be subject, and the feeding of this Fire is required to be fatty, and that it may be easily taken with Fire, and this not desir'd in Bitumen, as appeareth of Naptha, whereof our Petrea Oleum, which is a kind of Bitumen, and if it shall be new, it catcheth the flame from farr, so that in the Fields of Mutina, with *Fallopins*, where it is gather'd plentifully, it is necessary for them which gather it, to leave their Candle far from the Place, where they do gather it, and they gather it in certain Places

under the Earth, unto which they go down by many Steps, and they be most dark Places, so that they are constrained to carry with them a Light. Therefore seeing Bitumen may be easily kindled, and is plentifully found in Places under the Earth, as plenty of Naphta Gather'd in the aforesaid Place doth shew: it is very like that it is the Subject feeding such Fire.

The fourth Book of JOHN JONES of *Bathes Ayde.*

LAstly, we shall place in this Book certain Aphorismes, of the Preparation unto Bathes, of entering in, comming out, Diet, Sleep, and Accidents, with Cautions of them.

Acknowledge your selves, with the holy Apostle *Paul*, to be in the Lord's Hands, as the Pot is in the Potters, saying, before you go in altogether on your Knees devoutly the Prayers appointed in the End of this Book.

Such as be diseased with any Fever, being weak and slender, must abstain from Bathes, as saith *Rol. lib. de Med. aquis*. They whose Temperature is hot and dry, Children, Springuls, young Men, lean, consumed, also Women great with Children must eschew the Bathes, yet I am not ignorant of the youth daily frequenting the Bathes, which Thing not only Reason forbiddeth, but also Experience; for their Skins thereby become not only wrinkled, but also Tawny, especially if they incline any thing to Choler:

ler: Every Person going into the Water must first cleanse his Body from Superfluities. All Persons afflicted, or grieved by journey, shall not forthwith enter the Bathes, but shall first rest their Bodies, for the space of a Day or two, or more, that day which shall be overcold, wintry, and rainy, the Bathes shall not be approach'd, neither in the pestilent Seasons, saith *Agricola lib. de Peste*: and also *Raza de Peste*; neither in the full of the Moon, saith *Rolandus*; neither in the leap Year, with *Savonarla*, because it is the Year of Saturn, therefore in the leap Year you may not without great Danger use them, for *Saturn* amongst all the Planets is an Enemy to Generation, Man's Nature, and good Estate of the Body, because the Estate of the living Body consists in Health, and to prove that it is the Year of *Saturn*, this they say. The Saturnal Year is moved from 4 to 4; but the leap Year is moved from 4 to 4; because every 4th Year is leap Year, *ergo* the leap Year is the Year of *Saturn*, this Opinion is not only false, but also made and unlearned; the leap Year is not the Work of Nature, but the Invention of Man. For *Augustus Cæsar* devised to make the Year even 365 Dayes six Hours and odd Minutes. But the leap Year is the Constitution of Man, and Man hath not force to alter Nature in the Theoricks, *ergo* the leap Year to hurt the Nature of Man hath no more force than any other Year. In the Months of *April, May, June, September* and *October*, when the Air is temperate, are the best Times. About an Hour after Sun rising in the Morning, if the Disease require, drink the Water out of the Spring, the
Body

Body aforefaid purged, the Digestion fullfilled, and the Bath first cleansed, remaining clean six Hours before.

So much of the Water as may not be grievous to the Stomach, may be drank: The Water being drank, the Party must walk gently a few Paces in a temperate Air.

After the Sun rising an Hour, enter fasting into the Bath, the Digestion first being fulfilled.

And every Person entring, shall first empty his Belly, and make Water, if so be that he can, not to do that every Day, yet every second or third Day.

Any Person going into the Bathes, shall sit in a Place somewhat distant from the Spring, and so by little and little draw towards the Spring.

If the Parts under the Midriff be grieved sit up to the Navel, but if the Parts above the Navel be diseased, sit in unto the Neck. The first Dayes use it temperately a small Space; the Dayes following hotter, and a longer Space.

Use the Bath as well in the Morning as in the Evening, if the State of your Body and your Strength shall require.

Such as be hot, weak, thin, lean, and slender must avoid long Tarriance in the Bath; it shall suffice in the Morning from 5 till almost 6, and so likewise in the Evening.

Such as be fat, strong, cold, moist, and Women do sustain longer Tarriance in the Bath; that is two Hours in the Morning, and an Hour and half in the Evening.

In

In the Bath you shall neither eat nor drink, neither for the Space of an Hour and half after your comming forth, except Necessity constrain.

Such as be full of Meat and Drink must abstain from the Bathes.

Before you be ready to faint avoid the Bathes.

When you come out cover your selves with Clothes, then go to Bed and sweat, for Sweat saith *Galen de sanitate tuenda* evacuateth from all Parts. An Hour afterwards you must be dried, and put on warm Clothes, sleep also after Sweat is Convenient: But in the Bath abstain from slumbering, when you rise out of your Bed, move with some light Exercise, or walk in a Closet, or in a Place free from Distemperature of the Air, from Cold and the blast of Wind.

If you be either weak, or have the Joyntach, use a Place of Exercise, or Friction of outward Parts.

If Friction (which here shall be rubbing with a Nettle Cloth) shall not be made, (of which you may find more largely in my Book of Buckstones, Bathes Benefit) we must use a Suppositor of Hony, or of the Root of white Lilly, or Lard, or Soap, or Fig, and that before Meat, of all which means to evacuate shall hereafter follow.

The Head at your comming forth of the Bath must be diligently dried.

So much Meat as is convenient, which will bring unto the Stomach neither heaviness nor wambling, may be in due Time received.

29 Repletion must altogether be avoided, so must the Bathes in Pestilent Seasons, and that for two Causes in special, the one by Reason it filleth the
Body

Body with over much evil Juice; by Reason of which it educes a Spasm, and many other Diseases, the other because it openeth the Pores, makeing it ready to receive the ambient Infection.

29 Such Meats and Drinks must be used as be of light Digestion, good Nourishment, not gross, nor slopping, nor over cold, nor vehemently hot: Here we might enter into a large and ample Discourse of Diet, if thorowly we should make mention of all Things nourishing, but our Intent is not so far as Reason reacheth, to shew how all Things agreeing, and disagreeing of the Greeks called *Sympathia*, and *Antipathia* doth either assist or strengthen our Bodies, or that do either alter, or corrupt our Bodies, seeing it would make the Volume not only over huge; but also burthen the Readers, that brevity covet, and therefore that we may be rather pleasant, and compendious, than grievous or tedious with some little entrance, that your Senses may take some smack of our Meaning shall suffice, untill another Place more meet, considering also that in our Tables of Things natural, such Things are distinguish'd, only I appoint with *Fern. Lib. secundo de abditis rerum causis*.

That Nothing at all can nourish us, which is not it self nourish'd, and endued with Life, for Stones, and Metalls are no Elements, or Nourishments for us, but only either Plants, living Creatures, or such as are proceeded from them. Because our Life, and Health cannot be sustained, but by the Life of other, and if Health, not the Substance of our Bodies, but by the Matter of them, and whatsoever
of

of them liveth most Excellent, is most Wholesome for our Nourishment: for the Bodies of Birds, and four Footed Beasts, do better nourish us, then Fish, and them both then Fruits or Herbs, if ye refer like to like, of which peradventure it is comprehended, that Nourishment is familiar unto us, first, truly in Spirits and divine Heat, afterwards in Matter which receiveth Preparation unto these Things, and these we call the whole Substance.

Concerning the Nature and Vertues of Water.

CHAPTER I

Of Water in general

WATER is a Substance so absolutely necessary, that no living Creature can subsist without the Benefit of it, nor no Tree bring forth it's Leaves and Fruit, nor any Plant it's Seed, if they be deprived of that vivical Moisture, which maketh them all to grow and prosper. That this is true you may observe in Summer, for if Rain be wanting but a few Weeks, how bindedly be all things. How do all Plants wither in that Season, when they should chiefly flourish? For this Cause perhaps it was, that Hesiodus thought Water to be the most ancient

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TREATISE

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CHAPTER I.

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ancient of all the Elements. Of this opinion also was *Thales Milesius*, one of the seven wise Grecians, who made Water the sole Principle of all Things. *Empedocles* likewise jumping with them, said that all Things were made of Water; and *Hippon* in *Aristotle* terms the Soul Water. *Hipocrates* goeth not so far, but yet he calleth Water and Fire the two Principles of Life. True it is, that by Water *Hippon* doth understand our Seed, and *Hipocrates* our radical Moisture. The Latins upon the Etymologie of the Word *Aqua*, Water, do derive it from *à qua quasi à qua vivimus, vel à qua omnia fiunt*, by which we live, or out of which all Things are made. Others will have it *quasi æqua*, because there is Nothing more equal and smooth then Water, when it is not tossed with the Wind. But *Julius Cæsar Scaliger* disliketh these Etymologies, and will derive *aqua* from the obsolete Greek Word *ἀρχή*, which anciently did signifie Water. This Element seemeth to challenge a Kind of Rule and Dominion over the rest, for it easily transmuteth Air into it self, extinguisheth Fire, and devoureth Earth. And to go no higher than our Grand-Fathers Memory, nor further than our Neighbours, the Ocean Sea swallow'd up above one hundred thousand Acres of Ground at one Clap in *Holland*. Nay it aspireth even unto the Heavens, and which is strange, it doth not onely get up thither in it self alone, but carrieth with it whole shoales of Fishes, heapes of Stones, and divers other heavy Substances, which

a Lib. 1. c. 2. de anima. *b* Exercis. 745.

afterwards fall down with it. Most Creatures live without Fire, without Water none; and with Water only, without any other Sustenance, a *Spanish* Mayden is reported to have lived a long time; and *Albertus* writeth of a melancholy Man, who, by the space of seven Weeks lived with Water onely, one Draught of which he took but every other Day. The Lord *Verulam* also hath produced his Opinion of late, and holdeth that Trees and Plants live, and are nourished meerly by Water, and that the Earth is as it were, but a *Stabilimentum* unto them, to keep them steady, and from being beaten down by the Wind. He proveth it by Rose-bushes, which being put into Water, without any Earth, and kept upright in the same, not only brought forth Leaves, but fair Roses also, and the royal Prophet saith, that *a tree planted by the rivers of water, bringeth forth his fruit in due season*. Much more might be said concerning Water, but because I intend to be brief, let this suffice.

CHAPTER II.

Of the Differences of Water.

IN the Creation God said, *let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And GOD made the firmament, and divided the waters, which*

a Cal. Rhod. Lib. 13. c. 23. *b* Psal. 1. *c* Gen. 1, 4, 5.

were

were under the firmament, from the waters, which were above the firmament. And Dav. saith, *a* that the Lord sitteth upon the flood, that is upon the Orb of the Waters; and where he exciteth the Creatures to laud the Lord he speaketh thus, *b* Praise him ye heavens of heavens, and the waters that be above the heavens: Those Waters are likened in another Place to a *c* terrible christall, and said to be as it were, *d* a paved work of saphir stone. *e* And some go so far, as to define the Place and Seate of those Waters, and say, that they are as much above the *primum mobile*, as the *primum mobile* is above the Elementary Waters, but whether they ever were there to take the just Distance, I do not know. That there should be Water above the Firmament, many Men think it strange, and yet the Deluge, besides the expresse Word of God, proved it to be true. For if all the Water of all the Seas, Lakes, Ponds, Rivers, and Fountains in the World, had been drawn up into the Heavens, in like Manner as we do in Distillations, yet would not their Quantity have increased, but there would have return'd back again, by Rain, no more, then was ascended up, nor so much neither perhaps, because though you be never so careful in your Distillations, and use Glass Vessels, never so well luted, yet will you still receive some Loss; and so the Flood had not gone fifteen Cubits above the highest Mountains. But why this should be stranger, than all the rest of the wonder-

a Psal. 29. 10. *b* Ps. 148. 4. *c* Ezech 1. 24. *d* Exod. 24. 10. *e* Rabbi Levi Ben. Jarebii in Gen. c. 1.

ful Works of God, there is no Reason. The massie and heavy Globe of the Earth and Water standeth, as it were, in *æquilibrio* in the Center of the World, suspended by the Omnipotency of God. Nay all his Works are universally so admirable, that there is no less Wonder in the smallest Gnat, than in the biggest Elephant, in the least Weed, that creepeth upon the Ground, then in the tallest Cedar. But of those Waters, which are above the Firmament, and of those, which were gathered together under the Firmament, namely the Seas, we speak here but by the Way, though concerning the Seas divers curious and pleasant Questions might be handled, as touching the Saltness of it, and ebbing and flowing of the same, why it can endure no impure Things, and the like. These Things I say, might bring some Delight to the Reader, but they are beyond our Scope, and therefore I will only speak briefly of those Waters, which are *potabile*, and in common use amongst us, either for Dyet or Physick.

They are commonly divided into Fountain-Water, River-Water, Well-Water, Rain-Water, and Pond-Water. The Preheminence thereof is commonly given to Spring-Water, but in general, that Water is accounted best and wholsomest for Dyet, which is pure, and without any Taste, but such as Water should have. For most Water retaineth some Savour of the Ground through which it runneth, and albeit to those, who do not use to drink Water, it be imperceptible, yet divers of those, who drink nothing but Water, will as easily perceive a Difference betwixt Water and Water, as we do betwixt Beer and

and Beer, or Wine and Wine. The best Water also is lightest, but that Lightness is not to be consider'd by Weight (for Snow-Water is most light, and yet unwholesome) but by the thinness of the Parts thereof, and by the speedy heating and cooling of the same, as *Hippocrates* well observeth. Let this suffice to have been briefly touched concerning the Differences of Waters in general, and let us now say something, with like brevity, concerning the original of Springs and Rivers.

CHAPTER III.

Of the Original of Springs and Rivers.

IT is a common receiv'd Opinion, derived from *Aristotle*, that the Generation of Water proceedeth from Air condensated into the same, in the Bowels of the Earth, and distilling, as Water doth with us from a Limbeck. But it is hard to imagine, how the Nature of Air should be so speedily corrupted, and turned into Water, and in that Quantity too, that should maintaine the continual Course of so many Springs, and so great a Number of Rivers as are in the World, divers of which are of such vastness, and of so swift a Course, that a Man might justly think, that the whole Element of Air, which in its own Nature is but very thin, should scarcely suffice to maintain the Course of that abundance of Water one only Day. And as for the Reason they

they alledge, that Air is retain'd within the *Concavities* and *Porosities* of the Earth, *ad vitandum vacuum*, which Nature doth abhorre, and afterwards is converted into Water, it is but a very weak one; for those *Concavities* are still full of Air, as well else-where, as where Springs and Rivers doe flow. But if the Transmutation of Air into Water were the only Cause of the flowing of all Springs and Rivers, surely their Streams must needs be but narrow, and their Course flow, and of small continuance. Besides, if this were true, how could the Sea, think you, contain that excessive abundance of Water, which perpetually runneth into the same? The ancient Opinion then is the truer, that all Fountains and Rivers come from the Sea, and are *transcolated* through the *Veines* and *Porosities* of the Earth, where in their Passage they leave their Saltness. *Plato*, *Aristotle's* Master, was of this Opinion, and before him *Thales Melesius*; as also ^a*Philo*, ^b*Seneca* and ^c*Georgius Agricola*, which without Question they had learned from the *Hebrewes*. For thus speaketh the Preacher, ^d*All the Rivers run into the Sea, yet the Sea is not full, unto the place from whence the Rivers come, thither they return again.* This is a most clear and expresse Text, and which alone shall suffice to prove this Point, especially seeing the Rule and Law of Nature doth *suffragate* unto the same; for wheresoever there is a Repletion, there must needs an Evacuation be. But some perhaps

^a In Libro de Mundi opificio. ^b Lib. 3. c. 9. Nat. quæst. ^c Lib. 1. de Ortu subterr. ^d Eccles. 1.

may say, we see indeed all Rivers run into the Sea, but we do not see how they come from it. True, but when we see that for all the abundance of Water, which runneth continually into the Seas, the same are not increased thereby, but remain still the same, we must needs imagine that they disburthen themselves somewhere. For otherwise, the Waters had long agoe overwhelmed the World, and reached up even unto Heaven, seeing that the *Flood, caused but by Rain of forty days, ascended fifteen cubits above the highest mountains.* Besides our very Senses may perswade us, that the Original of Springs and Rivers is from the Sea; for divers Springs of fresh Water are in sundry Places, which seem to *sympathize* with the Sea, and to imitate the Motion thereof by a kind of Ebullition. And which is strange, and yet a thing avouch'd by divers good Authors, those things which were cast into the River of *Alpheus* in *Grecia*, were afterwards found in the Mountain called *Arethusa*, near *Syracusa* in *Sycily*, though there be a great Distance of Sea and Land betwixt them, which gave Occasion to the ancient Poets (who did use to *involve* all the secrets of Nature in their Fables) to faine that *Alpheus* and *Arethusa* were a couple of Lovers, which were transformed, the one into a River, and the other into a Fountaine, and of them speaketh *Ovid*, saying,

a Gen. 7. b Lib. 5. Metam.

E In

*In latices mutor, sed enim cognoscit amatas,
 Amnis aquas, positoque viri, quod sumpserat, ore,
 Vertitur in proprias, quo se mihi misceat, undas.*

But whereas I said before, that for all the Water, which runneth into the Seas, they remaine still the same, I would not be mistaken, for I know that the Seas have sometimes gone beyond their ordinary Bounds and Limits, but it hath been when they were, as it were commanded so to do by their Creator for the Punishment of Men's Wickedness, or whensoever Men have gone about to alter the natural Seat and State of the same, and the ordinary Course of Rivers.

Of God's Judgments there are divers Examples, as *Olenus* and *Helice*, two of the twelve Cities

a Lib. 2. Of *Polibius* that excellent Greek Author, whose Works I lately finish'd to translate into English, my Translation being ready for the Press, if it can find any Room there. And as for *Polibius*, I dare boldly say here by the way, that there is not any better or more necessary Author extant in his Kind, especially for three Sorts of Men, Princes, Statesmen, and Souldiers. And whereas the Emperour *Charles* the fifth, was wont to say, that there were but three Books necessary for a Prince, *Polibius*, for Wars, *Machiavell*, for State-matters and Policy, and *Castiglio* for behaviour, if he aim'd at a *Compendium* he might very well have left out the second, seeing for State-Matters, and honest Policy, enough of it may be found in *Polibius*, who for Judgment, Sufficiency, Vertue, and Honesty, (though but an Heathen) went far beyond *Machiavell*, and far more for Employment and Experience having been in great Places of Authority, both in civil and marshal Affairs, and familiarly acquainted with that great Roman *Scipio Africanus*, and with *Caius Lelius*. Whereas *Machiavell*, was but a petty Secretary or Town-Clark of the City of *Florence*, grown famous only through wicked Maximes and Positions contained in his Writings, especially in his *Prince*, where he setteth forth that Monster of Men. *Cesar Borgia*, Bastard Son to the like Father, *Alexander* the sixth Pope of *Rome*, as a Pattern to be imitated by such as desire to get Rule and Dominion to themselves. And it seemeth by a
 Passage

which made the Common-wealth of the *Achæans*, which a little before the Battle of *Leuctra* were drown'd by the Sea. *Antissa*, *Tindaris*, *Burrha* had the like Fortune also, being swallowed up by the Sea, together with all their Inhabitants. And that it might the better appear that the Finger of God was in it, all such, as thought to have escaped by shipping, perished as well as the rest, being drowned and overwhelmed by the Waves. And of those who have endeavour'd to contract and pin up the Sea into narrower Limits, by Wrils, Dikes, and other Works, divers of them have often sustained great Damage by the same; as for Example, the *Hollanders*, who, as we said before, lost above 100000 Acres of Ground by such means, which the Sea, after the overthrow of all their Dikes and strong Works, took away from them, as it were by Letters of Reprisals. This were enough to teach Men that it is but in vain to go against the Order establish'd by God, and the ordinary Course of Nature; yet it is worth the noting also, and a Thing not to be consider'd without Admiration, that all those Princes, who purposed to cut the *Isthmus* of *Peloponesus*, which is a Neck of Land betwixt two Seas, containing according to *Mercator* in his *Atlas major*, some five Miles in Breadth, dyed all before

Passage of the seventh Chapter of his *Prince*, that he was acquainted with him, and perhaps a Counsellor of his in his Murthers, Poisoning, and other devilish Exploits. But *Polibius* is so far from doing the like, that there are infinite Digressions in his Works, in which he reprehendeth the vicious Actions of Men more sharply, then some other Authors, which profess themselves Christians.

the Work was begun, as *Caligula*, *C. Caesar*, *Demetrius*, *Nero*, and *Domitianus*.

CHAPTER IV.

Of Waters of strange Nature and Effect.

ALL Springs of Waters are actually, either hot or cold. Of those hot Springs some are of so excessive heat, that a Man would think it were Water boyling upon the Fire; and amongst other there is a Vein of it running under a Street in a Village called *Porcet*, near the City of *Akin* in *Germany*. In the middle of this Street there is a Hole, which they call *Hell*, with three or four Bars of Iron over it, in which the Neighbours round about, in the Summer-time, when they have no Fire, doe use to seeth their Egges, letting them down with a Net into the Water, and in a small space of time they may be boyled hard; of which I was twice an Eye Witness, being there first in the Year 1610. after the siege of *Gulick*, and the yielding of the Town to the States, with that brave Souldier Sr. *Horace Vere*, now Lord of *Tilbury*, and the second time with that worthy Knight, Sir *Henry Palmer*, now controller of the Navy. The Cause of those hot Waters is commonly ascribed to Mines of *Sulphur* or *Brimstone*, inflamed within the Bowels of the Earth. But few of those hot Waters, as at *Akin*, *Porcet*, in the *Pyrenean* Mountaines, at *Bathe* in *Somer-*

Somerset-shire, and elsewhere, have any great or extraordinary Taste of Brimstone, as they should of necessity have, if Brimstone melted and burning were the Cause of their Heat, that Mineral being of so piercing a Nature, and of so extensive a Faculty, that never so little of it burning upon a few Coals, when our Women dry their Tiffanies, filleth a whole Room with the strong Scent of it. Besides, such a great Quantity of Water running continually, and so many Years and Ages together, had long since extinguish'd those Fires; or if there were such Flames within the Bowels of the Earth, the same would long agoe have dried up the Water, and reduced the Earth into Ashes. Another Reason there is, that you shall find no hot Springs where Fires do break out, and albeit the Hill *Vesuvius*, and Mount *Aetna* burn continually, yet are there no hot Springs about them, though they be environed by the Sea. And for all the late wonderful and extraordinary Eruption of Fire out of the said Hill *Vesuvius*, or *Monte de Soma*, as they call it now; which hath been so violent, that the Houses of *Naples*, which are eight, or as others say twelve Miles from the same, were all covered very thick with the Ashes thereof, yet do they not write that the Water which gushed out at the Foot of the said Hill was hot.

Besides, albeit there be many hot Waters in *Italy* (for those that have written of them, reckon few less than threescore) yet shall you see no where a mixture of Fire and Water in those Parts. Which makes me think with some that the Cause of the Heat of those Waters proceedeth from their Motion

tion and Agitation in the Bowels of the Earth, falling from *Cataracts*, and broken *Concavities* in the same.

That this may be true, it may be proved by the Sea, for though it be actually cold, yet if it be tossed by a Tempest but of three or four Dayes (and it is seldom that a Storm lasteth longer) the Water thereof will sometimes become very hot. Besides we have many very *Sulphurous* Springs which are never but cold; as for Example, one of the four Springs used at the *Spa* called *Geronster*, which tasteth so strong of the Brimstone (as my self can speak by Experience) that divers of those, who drink of it, are constrained to hold their Noses whilst they are a drinking, and the *Sulphurous* Fumes of it are so piercing, that they do speedily intoxicate the Brain, and cause Drunkenness, though it be but for a little time, being soon disscussed away.*

Now for the other Springs which are actually cold, there are sundry Differences of them, according to the severall Substances they do run through, and the Nature and Effects of some of them are very admirable.

Some do turn into Stone whatsoever is cast into

* Since the writing of this Treatise, and when I was come to London about the printing of it, I lighted by chance upon Dr. *Jordans* learned and elaborate Discourse of *Natural Bathes* and *Mineral Waters*; wherein he hath peculiar Opinion concerning the actual Heat of Mineral Waters, which he ascribeth to the *Fermentation* of Minerals, and illustrateth the same with Reasons and Examples. I am so far from disliking it, that I applaud it, and leave both his and mine Opinion to the Choice of the Reader, for in those abstruse things we have no certain Knowledge but only probable Conjectures. Howsoever, the least probable of these two Opinions is far more likely than those imaginary actual Fires which the vulgar Opinion holdeth.

them,

them; especially if the things cast in be of a loose and porous substance, as Leather, Balls, Gloves, and such like; and *Pliny* and others describe divers Springs of that Nature.

But not to go out of this Island for Examples, there is a Spring of that Nature in *Wales*, in a peice of Ground belonging to Sir *Thomas Middleton*. And the quick Activity of some of those Springs is wonderful, and almost incredible; for *Bodinus* doth affirm, that he hath seen Sticks of Wood, Strawes, and such like small things converted into Stone in *Lacu Piceno & Alliensis fonte Avernorum*, within the space of two or three Hours. So that *Pliny's* assertion, who saith, that Earth is turned into Stone in a Fountain of *Guidus* within the space of eight Months, is no more to be wondred at. The same Author, namely *Pliny*, maketh mention of two Fountains, the one called *Cerone*, which maketh the Sheep, that drink of it, to bear black Wool, and the other *Melan*, which maketh the Wool of the Sheep, which drink of it white, and if they drink of both, their Wool will become of two Colours; and of another call'd *Crathis*, which procureth Whiteness, and of a fourth called *Sibaris*, which causeth Blackness in the Sheep and Oxen, which drink of the same. Nay the same Effect is seen also in Men, which drink of them, for those that drink of *Sibaris*, become blacker, harder, and of a curled Hair, and such as drink of *Carthis*, wax whiter, softer, and of a smooth Hair. He bringeth in also other

a Lib. 2. *Theat. Nat.* *b* Lib. 35. c. 13. *c* Lib. 31. c. 2.

Waters, which have the like Effect in changing the Colour of such as use them. He saith likewise, that there are two Springs in *Bæotia*, near the River of *Orchomenus*, whereof the one strengthneth Memory, and the other causes Oblivion. A Fountain in *Arcadia*, called *Linus*, preserveth Conception and hindreth abortement, and on the other side, the River called *Amphrisus* maketh Women barren. *Cydnius*, a River of *Cilicia*, helpeth the Gout in the Feet, as appeareth by the Epistle of *Cassius Parmensis*, to *Marcus Anthonius*; and contrariwise by the use of the Water, which is in *Træzene*, all Men get the Gout in their Feet. All such as drink of a Lake called *Clitorious*, beginne thereby to hate Wine. *Polyclytus* relateth, that the Water of a Fountaine in *Cilicia* serveth instead of Oyle; and *Theophrastus*, that the like is done by the Water of a Spring in *Æthiopia*; and *Lycus*, that the Water of a Fountain in *India* burneth in a Lamp. The like also at *Ecbatana*. *Juba* speaketh of a Lake amongst the *Troglodytes*, which for the hurt it doth, is called the mad Lake, and saith that it is bitter and salt thrice in a Day, and then fresh, and so again at Night. The same Author also maketh mention of a Spring in *Arabia*, which bubbleth up with such Force, that it casteth forth whatsoever is thrown into it, tho' it be never so weighty. There are two Fountaines in *Phrigia*, the one called *Gleon*, and the other *Gelon*, having those Greek Names from their Effects, for the first maketh Men cry, and the second makes them laugh. There is an hot Spring at *Cranon*, and yet without excessive Heat, which being mingled with

with Wine, and kept in a Vessel, keepeth the same hot by the space of three Days. There is a River in *Bythinia* called *Olachas*, into which if perjured Persons be thrown, they feel as much Heat, as if they were in a flaming Fire. In *Cantabria* there are three Springs but eight Foot asunder, which running together make a goodly River, and every one of them by turns becommeth dry twelve Times, and sometimes twenty Times a Day, so that a Man would think there were no more Water in it, whilest in the mean time his next Neighbours be full, and flow continually. There is a Brook in *Judea*, which is dried up every Sabbath. In *Macedonia*, not far from the Sepulcher of *Euripides*, there are two Brookes running together, the one having very wholesom Water, and the other poisonous and deadly. *Quod si quis*, saith *Pliny*, *fide carere ex his aliqua arbitratur, discat in nulla parte naturæ majora esse miracula*. If any Man think that some of these Things are past belief, let him learn that there are no greater Miracles in any other Part of Nature, than in Waters. But if any Man desire to know more concerning the various Nature and Effects of Springs and Rivers, let him read the 13th Dialogue of *Simon Majolus*, Bishop of *Vultuaria*, in that Tome of his Workes, which he intituleth *Dies Caniculares*, and there he will find wherewith to satisfie his Curiosity. I pass now to Mineral and Medicinable Springs which use to be drunk.

Lib. 3. c. 2.

CHAPTER V.

Of Mineral and Medicinable Springs.

Mineral Waters by their manifold turnings and windings under the ground, are as it were *impregnated* with divers Vertues and Faculties of the several Minerals, through which they run, and draw with them, either the Faculties or Substance of the same; and sometimes both. And therefore as meer pureness commendeth ordinary Springs and Wells, so doth the various Mixture of several things, though sometimes of a contrary and repugnant Nature, procure Commendation to Medicinable Waters. Some of them are beholding for whatsoever they have to the several Kinds of Earth, which they pass through, and lick, as it were, by the way, as *Bole, Ocre, Rubrick, Chalk*, and the like: Others to Liquors or congealed juices, as, *Allum, Bitumen, Brimstone, Nitrum, Coporas*: And others again to Metals, as Gold, Silver, Iron, Copper, Tinne, Lead. There are some also, which owe their Vertues to Stone, as Chrystal, Marble, Pumice-Stone, *Lapis Hematites*, and the like; and others to the Roots of Trees and Plants, though these be rare, either because Trees do not root so deep, or by Reason that medicinable Springs are commonly in barren Soiles, as on the contrary wheresoever there is a fruitful Soil, there are no Mineral or medicinal

dicinable Springs to be found. Out of all these subterranean Substances divers Springs draw sometimes contrary Faculties, or at least such as have but small Affinity one with another, and from hence it happeneth that oftentimes one and the same medicinal Spring cureth divers Diseases, which are either contrary one to another, or at least have but small Affinity together. It is of this as it is of Theriack or Mithridate, which are Compositions consisting of a great Number of Simples of contrary and repugnant Natures, as it were huddled together by chance; and yet when those Compositions have had their due *Fermentation*, and that those several Simples have wrought one upon another, and become to be incorporated together, there resulteth afterwards an universal Form in the Composition, which maketh it excellent for most Diseases, and as it were a general *Panpharmakon*. And in that regard some do merrily call Mithridate the Father, and Treacle the Mother of all Medicines. But that we may the more accurately distinguish betwixt Mineral Springs, we must consider the nature of the Minerals, and look which of them have Affinity together, and which not. *Bitumen*, *Salt*, *Sulphur*, *Coporas*, *Copper*, &c. hot, and therefore they have a Faculty to cut, cleanse, open, dry, extenuate, and disperse. ^a *Albertus Magnus*, and after him *Andernacus* and others, do reckon *Sal nitrum* with these, and hold it to be hot; which might be granted them, if by *nitrum* they understood that *nitrum* whereof ^b *Hip-*

^a Lib. 5. de Metallicis. ^b Lib. de aere, locis & aquis.

pocrates, ^a *Dioscorides*, ^b *Pliny*, ^c *Galen* do speak; but I do not think that either *Albertus* or *Andernacus* ever saw it, because it began to be scanty and hard to be found in the time of those ancient Authors before cited after *Hippocrates*. But our Salpeter; which is now called *nitrum* amongst us, is as far from that ancient *nitrum*,

Quantum Hispanis Veneto diffitus Eridano.

For if Gunpowder were not enough to prove the coldness of *nitrum*, in which its Opposition and contrariety to Brimstone is so manifest, yet were the *Sal prunellæ* of the *Chymists* (which is nothing but *nitrum* purified from its Dregs with *Flores sulphuris*) sufficient to evince it, a very little of it put into a Glass of Wine, making it so cold, that one is scarce able to drink it. And to this Purpose I remember that when I was in *Holland*, the Prince of *Orange*, *Maurice*, was wont always in the Summer time to have some of it thrown into the Water, where his Wine lay a cooling. That *Sal prunellæ* also is the best remedy against the Heat, Dryness and Roughness of the Tongue in all Feavers, and especially in that *Hungarian* Feaver called *Prunella*, from that Symptome, which gave likewise the Name of *Sal prunellæ* to that purified *nitrum*, by Reason of the Excellency of it in asswaging the same. And the more to confirm this, one of the four Springs of the Spa called *Tounelet*, and consisting chiefly of ni-

^a Lib. 5. c. 89. ^b Lib. 31. c. 10. ^c Lib. Si Medicam.

trum,

trum, is so very cold, both in the Mouth, and in the Stomack, that few can endure it, and in that regard it is very little frequented, and during my stay there, I do not remember that ever I saw at it more than a *Capuchin* Friar, and another Clergy Man, who used it for the Heat of their Livers, in which Case it may do good, if the Stomack be not too weak.

Silver, Iron, Tinne, Lead, are accounted cold, and by Reason of their astringency, to be at least in the second Degree. Gold is likewise placed amongst these, though a Man might perhaps with better right account it temperate. Now in regard of this variety, some Springs are called *Nitrous*, *Sulphurous*, *Bituminous*, *Aluminous*, &c. according to the only or predominant Mineral, of which they do participate. But yet some there are, in which it is a very difficult matter to know the same. So the *Uberlingunians* in *Suevia* do dispute to this Day, whether their Mineral Spring proceed of Lead or Copper. In like manner, the *Italians* are not well agreed whether the Vertue of the Mineral Water about *Lucca* commeth from Iron or from Allum. And a great Man, that was one of the chiefest Chymists of this Age, doubted whether he should call the *Empsenses aquæ Aluminous* or *Nitrous*, so hard a thing it is exactly to distinguish in things, that are compounded and permixt.

Taken from Dr. Lodwick Rowzee of Ashford in Kent.

THE

*Sanctorius's Aphorisms, with the Explanations
of Dr. John Quincy, Sect. II. p. 128.*

A warm Air and Baths actually warm (unless undigested Humours prevent it) promote Perspiration, cool the Viscera, and render the Body lighter.

ANY moderate external Warmth relaxes the Solids, and opens the Cutaneous Pores, and gives greater liberty thereby for the perspirable Matter to pass off; but if the Humours are crude, and not sufficiently digested, that is, if they are gross, and not broke small enough; that easy relaxation which otherwise would give them the more Room to fly off, will only occasion a greater Derivation of them towards the Circumference, where by their Grossness, and Indigestion they will be obstructed in the capillary Vessels; and such an Obstruction by a continual Supply from within, will encrease, until the Solids are stimulated to make longer Sensible Evacuations, or raise a Fever. But where such indigested Matter does not hinder, the Causes abovemention'd will much encrease Perspiration, and of Consequence light and cool the Body. As for hot Bathing, the chief in our Country is that famous one near *Wells* in *Somerset-shire*; another there is of inferiour Note at *Buxton*. We shall leave it to Naturalists and Philosophers to account

count for the Production of these Waters, and be contented with observing, that they greatly abound with a mineral Sulphur. From the matter then with which this Water is impregnated it may be pronounced a soft, healing, subastringent Balsamick. Subastringent is added, because we never meet Sulphur, even the sublimed Flowers, which has not some Portion of a Salt in its Composition, which when boyled in Oyl, as in making the balsamick Sulphurs shoot like Needles, or the Branchings of *Sal Armoniack*: so that it is very improbable these Waters should take up any Sulphur in their subterraneous Current, without bringing also some of that saline Part along with it, which it is never found without, above ground; and especially when we consider how much more it is the Nature of Water to attract and joyn with such Particles, than those which are purely Sulphurous. Hence we are naturally directed to those Cases, wherein these Waters and Bathing in them must be of Service; they are like a Fomentation, which both supplies, and strengthens the Parts all over the Body at once, and by gentle shaking and undulating the Fibres, helps forward those vital Motions, which almost at a stand. In old Pains, and Aches, which have been the Remains of Nervous Distempers; and where some particular Part continues contracted, or has any Humours fixed upon it which it cannot dislodge, these Waters pumped upon it, hot from the Spring, do more towards a Cure, than all the Compositions in Pharmacy. Bathing all over in these Springs cannot but wonderfully open that almost

most infinite Number of secretory Orifices upon the surface of the Skin, and clear the cutaneous Ducts of Matter, which is apt to stick in them; by the Aperture of which *Spiracula*, the Fluids of the whole Body have more Room to move in, and have proper Vents to reak out a great deal, which it is of Service to the Oeconomy to get rid of.

Of Preternatural Tumors by drinking cold Mineral Waters on the *Alps*.

IT is twenty seven Years since I went from *Vienna* to *Venice*, by way of *Austria*, *Styria* and *Carinthia*; most of the Inhabitants in these Places are very poor, especially in *Styria*, and great Numbers blind and foolish, their Skins of a pale Yellow, with large scrophulous Tumors, which fill up all the space of the Throat from the Chin, and upper Part of the Breast are of the same Colour with the rest of their Bodies, and weigh some Pounds. I examin'd the Persons, and consulted their Physicians, and Surgeons, and they all agree that the whole is substantial Flesh, they are born so, and after many attempts of endeavouring a Cure by the assistance of the most skilfull, find themselves incurable. From *Cleopritz* at the Foot of the Mountains, in the space of about one hundred and fifty Miles, I saw some Thousands of these miserable Creatures. These Objects, dangerous Precipices, Thunder, Lightning, and Storms, rapid large Rivers, cold poysonous mineral

neral Waters, want of good Lodgings and Provisions hurry'd me through this Country towards the Land of Promise, I mean *Venice*. The Loss of my Weight in fifteen Days Time, was at least fifteen Pounds, and if I might have all the Country from *Vienna* to *Venice*, and be oblig'd to live in the best part, would not accept of it.

The Cause of these swellings taken from *J. Munnicks Praxis Cheirurgica, Cap. XXII. p. 136. De Strumis seu Scrofulis.*

Causæ vero Antecedentes seu Remotæ sunt, Vitæ intemperantior, Cibi crudi & crassi, unde & ætati puerili malum hoc familiaris esse pronuncia- vit modo Hippocrates. Accedit Potus Aquarum crudarum & nivalium: qua de Causa, qui Carinthiam & Styriam, & alia ibidem loca Alpes ver- sus incolunt, plerique Strumis in Guttore laborant. Langius, Lib. I. Epist. Medic. 43. & Lib. III. Epist. 4. in Hydrargyrum, seu Aquas ex Montibus Metal- lorum in se continentes, Causam hujus rei refert.

Not only *Munnick*, but almost all the Physicians that have writ on these Subjects have been of the same Opinion, that the crude Mineral Waters mix'd with Snow Waters, were the Cause of these Distempers, and I believe it, because Persons that drank small Wines, and no Water, were free. And these swellings in *Styria*, and *Carinthia* are reckon'd as Marks of Poverty.

Baccius de Aquis quæ Gulæ gignunt tumores, multæ reperiuntur præsertim in Alpibus & quibusdam locis in Italia aquæ, quæ manifesto hoc vitio bibentes, ut Gulæ, eis tumefactiones inducant, quæ medici modo cum Græcis Bronchocelas modo Herniam appellant scitissime in causis, qui, id misturis vitio vertunt; aut metalli virus aliquod imputant, ut jam diximus; aut specialiter Gypsum, quod aut à gravitate, aut sævo hallitu (Dioscoride Authore) hoc habet, ut impetat fauces aut strangulat. Qui egregie autem hodie de rerum disputant subtilitate, duas habent causas; aut id à lacunalibus gigni aquis aut in sinceris, & puris Aquis, id contumaciæ frigiditatis, ac cruditatis earum tribuunt, maxime nivallium & glacialium aquarum, ubi tres diversitates declarat experientia, quarum ratio est reddenda. Primum non omnis Aqua lacus hoc gignit. Præterea non omnis aqua frigida, & tertio nullum tale vitium visitur in Syria, in Africa, Arabia, Persia, India, Troglodytica Regione, ubi raras diximus pluvias fieri, ac aliquas naturales esse aquas miræ frigiditatis: universa Germania inferior, Sarmatia, Scythia, Norvegia, quæ regiones sunt Aquilones, & frigida, expertes hujus vitii sunt. Et ex lacunis bibunt Arabes, Parthi, Lybici, è gelidis Hybernici; nullis tamen in his locis gulæ tumores crescere legitur. Ratio ergo diversitatis hæc esse videtur, id quidem frigidaë qualitatis aquarum vitium esse, prædicta satis declarant exempla, &c.

Gulæ quidem tumefactionis causam in Aquis Alpium esse contumaciam frigiditatis, quam ex nivibus eliquatis recipiunt fontes, cum Doctissimo Scaligero sen-

sentimus. Eorum vero, qui nascuntur ibi, nemo eo vitio caret, pene omnes, & inepti ad loquendum: id ab aqua fit ex nivibus liquefactis, quæ multum terrestris frigoris & crudi continet.

Crudum enim repugnat resolutioni, terrestre vero, cum tenuitate aquea, sese insinuat gutturis musculis, glandibusque ibique hæret, & concretum durescit.

I have here given you the fatal Consequences of cold Mineral Waters, from the best of Judges, their Crudity, Gravity, Poysonous Qualities, mix'd with Snow-Waters, and Metalls, &c. are chiefly the Cause of these monstrous Swellings, and many other Diseases.

And *Munnick* before mention'd gives you an Account of many Diseases cur'd by the use of warm Baths; when no other remedy could be found. p. 123. of Scabs, and cutaneous Eruptions he chiefly commends warm Mineral Waters, especially Sulphureous. p. 116, 117. The Herpes in a short time safely cur'd by warm Mineral Waters. p. 410. Ulcers of the Bladder, and Pudenda. p. 412, 421. Ulcers, and Fistulas in *Ano* are cur'd by Bathing in warm Sulphurous Mineral Waters, with Injections of the same, *per Siphonem*.

These are his own Words, *quæ aliis Medicamentis Sanari non potuerunt curarunt.*

An

An Apology for the *Bath*, being an Answer to a late Enquiry into the right Use, and Abuses of the *Baths* in *England*, by the Author of the Latin Tract, *de Thermis Britannicis*. 1705.

The PREFACE to the Reader.

WHEN *Minerva* as the Poets fancy, made a Bath for *Hercules*, and both became the Deities of all the Baths in the World, we were then taught, kind Reader, what we still find true; that Bathing is of great use after hard Labour, and mightily refresheth all weary Persons. But the luxury of the *Romans* in after Ages grew great and exorbitant in stately Buildings, Ornaments, and pompous Dedications, as *Dio* and *Suetonius*, in the lives of *Nero* and *Titus*, give some Account; and *Martial* wittily says,

Neronianas hic refrigeret Thermas.

After that in the Time of *Dioclesian*, the *Roman Baths* were more stately and numerous; and the Time of *Antonine*, what pertain'd to them made a little Province, incredible to any that do not consider, that *Rome* in it's Glory, as *Antonius Thysius*, before *Roma illustrata*, relates, took up in City, and Suburbs

Suburbs more than forty Miles, contain'd eight hundred thousand Persons, and had above four hundred Temples, &c. That our natural hot Baths in *Britain*, dedicated to *Minerva*, were known to the *Romans*, is plain from an authentick *Roman* Historian, whose Age, in my *Antiquity of Bath*, I put much lower than common Chronology; &c. The long Experience, and peculiar Knowledge I have had of the hot Waters of the *Bath*, with the kind respect and great applications made, and receiv'd from the Users, and Favourers of the same in former Times, have drawn from me these few Remarks, more to maintain what, at the Request of the most excellent *Sr. Thomas Millington*, late President of the Physicians College Royal in *London*, I have already written, than out of any Desire again to appear in Print: Partly to explain and compare Observations, and in Part to rectify, if any Thing be amiss, for the farther Use and greater Benefit of sickly Persons at the *Bath*.

OF PERSPIRATION, p. 2.

THE Doctrine of Perspiration is a most noble Subject, and requires more exact Thoughts, and Consideration about: A Doctrine hath been a long Time conceal'd, and would have lain longer hid, had not the famous *Sanctorius* rescu'd it from the Obscurity it was in, and so advantageously propos'd it to the publick View; which the Author hath so

ex-

excellently cultivated, that I hope it will be a means of further Essays, and more Experiments on so exalted a Theme, on which the Cure of Feavers, and many Diseases of the Blood, and other Juices do chiefly depend: and this Point being so well handled by the ingenious Author, 'tis advisable he more seriously consider whether a cold Bath, which stops the Pores, and hinders Transpiration, can be of that general Use, as in this, and some other Writings he would have it to be; which probably may have no better effects in perspirable Bodies, than lying on the cold Ground, or admitting cold Air, which the Country People call catching cold.

3. The *Calor Nativus*, or *Calidum innatum*, and *Humidum Radicale* of the ancient Philosophers, and Physicians (which I think we cannot better understand, than by the Heat of the Blood, and the Juice we call Nutritive,) it being a Maxim among them (that we are nourish'd by the like Matter of which we are made) will be farther illustrated by a greater Search into this grand *Arcanum*: and as the invisible World, as an heavenly Prelate, formerly taught us in a Book of that Nature, both in Space and Inhabitants far exceeds the visible, so the invisible Evacuations out pass all the visible, and the accelerating or impeding the invisible Steam, commonly call'd insensible Perspiration by Bathing or otherwise, I judge will prove the surest Hinge, and much more considerable than that of *Alkaly's* and *Acids*, the Preservation of Health, and curing many Diseases will turn upon.

Pitcaru de Diarrhæa, p. 178.

II. The

11. The Virtue of Bathing and Drinking the Waters, if discreetly managed, continues in the Body a considerable Time after the Bath is left, and still advanceth towards a Cure, 'till quite subdu'd, and alter'd by common Meats, and Drinks, which is seldom done under a Months Time after, and is one Reason, why the Water once possessed, ought not to be ejected by any Evacuative Medicine, unless great Necessity shall require, but let alone to perform what was begun at *Bath*; though the Body ought to be well purged, by Phlebotomy, Vomit, or otherwise, very well prepar'd before the Use of the same.

I do not believe our Senses are sufficient to demonstrate any single Mineral in a Water, much less if a Complication of many shall be there. And I know this, that though our Author affirms, that the Cross *Bath* Pump Water tastes evidently Vitriolic; it will be as hard a Matter to produce any Vitriol thence, or make good the Existence of it to any other Sense, as it is easy to shew common Salt, and Nitre to any one that shall demand it. The Acidity may be owing to the Sulphur, and Salts, but how far Vitriolic, I could wish the Taste, or any other Means could demonstrate.

12. I remember the great Philosopher Mr. *Boyle*, that Honourable, and Excellent Naturalist, was of Opinion, in our frequent Discourse of such Matters, that the Acid in the *Bath*-Water was not a single, but a complex Acid, and that any Thing Vitrioline, or perhaps Aluminous, with great Caution was to be asserted in any Waters in *England*: Nitre and com-

common Marine Salt were unquestionable; but Vitriol, unless that of *Mars*, so dubious, that he had rather see it prov'd by others, than assert it himself, the Vitrioline part if any goes off in great part, before the Waters are cold.

Our Senses, and especially the Taste, are generally more competent, and better Judges about simple Matters than compounded, unless one be predominant; and that the hot Waters at *Bath*, were by any accounted Vitrioline *præ dominio*, this is the first Step I have ever known to be made to evince it, to which an Alkaly, not an Acid, makes fair a Pretence.

The fixed Salts remaining after Calcination so far exceed the Parts lost by Exhalation, that no Comparison can be made to any Advantage for the Assertors of Vitriol, or any Acid, to be the Major Part.

14. Though most Baths have compounded Salts, yet some one is most predominant, and by that I will distinguish the several Sorts of Mineral Waters and Baths.

I hope he doth not mean, that the predominant Mineral discovers all the rest, &c.

15. Although I am of Opinion, that many considerable Effects are produced by Heat, without Accension or Flame, yet that some hot Waters do owe their Origine of their Heat to an actual Fire, where Eruptions are visible, I never deny'd; and the neighbouring Heat of *Vesuvius*, and *Ætna* continually burning Mountains, to the hot Baths in *Italy*, and *Sicily*, give, I grant a sufficient Demonstration of the

the Cause of the Heat of these Waters, and others of like Circumstance, from an actual Fire: 19.

Again, the Equality, and Evenness of the Heat of hot Baths, must have a more steady Cause than a Fire can be; for that as it meets with *Pabulum* more or less to maintain it, must be stronger or weaker, greater or less, as the Bitumen, and Sulphur succeeds to foment it; not to mention the vast quantities must be spent without Renovation, which the continual Depredations of a devouring Fire will not permit, since hot Baths generally continue still in the same Place where they began, without any Alteration perceptible in Situation, or Heat.

21. This is render'd more remarkable, that the learned *Joseph Scaliger* commenting on that Place of *Tibullus*, l. 4. where *ardens unda* is mention'd, ridicules this Opinion in these Words; Pretty ingenious subtle Men! who can no sooner see hot Water, or a Bath, but presently conclude the Heat is from Fire.

Right Use, and Abuse of *Bathing*, p. 71.

Pumping ought to be very cautiously us'd on the Head in hot Distempers, being more agreeable to Persons of cold Constitutions; as this noble Author very well observes. The Napes of the Neck, Shoulders, Belly, Chine, Stomach, and Hips may receive a greater Number of Pumps, the Limbs, and Joynts fewer.

72. I agree with the ingenious Author, that the Waters of *Bath* are best drank in Seasons most free from Rain; and therefore in frosty Winters, and dry cold Seasons they are more effectual than in wet, and open Weather.

The unreasonable long Stay in the Bath at one Time is a great Abuse; an Hour: or between that and two is sufficient; longer Stay debilitates, and procrastinates the Cure.

73. That the End of the Spring and beginning of Autumn, are the best Times of Bathing in hot Baths I grant. But that the Summer, part of Autumn, and Winter too, have prov'd Beneficial to Bathers at the *Bath*, the many Instances already publish'd in a Register containing two compleat Centurys of *Bath*-Cures, most my own Patients, to which a third had been added, which was the only Copy, and miscarried at the Press, do sufficiently declare.

Sr. *John Floyer* of *Lichfield*, and Dr. *Baynard*
Fellow of the College of Physicians.

p. 2. **T**HE Manner of purifying by Water, seems as ancient as the Flood; for *Plato* in his third Book *de Legibus*, affirms, that the Gods purifyed the Earth by the Flood; for which End they brought it on the Earth, and from this Opinion sprang the Custom of purifying by immersion Mankind as well as the Earth, which Opinion is favour'd
by

by *Grotius*, where he discourses of Strangers initiated into Judaism by Baptism; *hanc Opinionem arbitror fuisse inter instituta vetera orta post magnum Diluvium in memoriam aquæ purgati Mundi.*

3. I will give you some instances from the divine Writing, whereby I may prove that the Ceremony of purifying by Water was ancients than the Law of *Moses*, and that it was practis'd by the ancient *Patriarchs*; 'tis very probable, because we find it recorded that *Jacob* commanded his Family to purify themselves, and change their Garments, before they went to *Bethel* to Sacrifice. We also read that *Pharaoh's* Daughter went to the River *Nile* (there being no Fountain-Water in *Egypt*, to purify herself, or to procure Fecundity as was usually done thereby.

The *Israelites* were used to immersion not only by the Example of their Ancestors, the *Patriarchs*, but such Customs of purifying were used by the *Egyptians*, amongst whom they lived many hundred Years.

Diodorus mentions the Customs of the first *Egyptian* King, who first washed his Body in Water, and then adorned himself in his Royal Robes before he went to Sacrifice.

Porphyry affirms, that the *Egyptian* Priests washed three times in a Day upon extraordinary Sacrifices.

7. *Cambden* assures us, that the *Gauls*, from whom our *Brittains* sprang, had their sacred Fountains, which they called *Divona*; and we may well suppose, that they used them both for Lustrations,

and Cures; as in following Ages (when Christianity came into *England*) the *Saxons* did: St. *Winifred* lived about the Year 644; and St. *Mongah* in the *Saxons* times; and we find the Wells dedicated to these Saints, were famed both for their Cures, and Devotion.

97. It was accounted an opprobrious thing amongst the *Romans*, *nec natare nec litteras scire*: and our Saviour sent the blind Man to wash in the Pool of *Shilo*, which was a common Bathing-place.

Part the Second.

5. I Cannot joyn with *Agathinus*, in his wonderful Encomiums of cold Bathing, as he is quoted by *Oribasius*, Phyfician to *Julian* the (Apostate) Emperor, wherein he instances the frequent use of it in himself, and recommends it to the World, as a most wholesome and salubrious Practice, and seems to have but a low and languid Opinion of the Use of hot Baths. For with due Respect to so great a Man (as doubtless he was in his Generation) I must take leave to dissent from him, and by way of Digression tell you, that I have for the space of thirty Years (one Summer or two excepted) constantly visited the hot Bathes at *Bath* in *Somerset-shire*, as a Phyfician, and have seen wonderful, and most deplorable Cases there cured, and some in a very little time, where Care and Caution has been observed in the Use of them; and especially in the
East

East India Gripes, and Cholicks, where a *Paralysis* has been general with a total Loss of their Limbs; and others with Arms, Hands, and Feet, strangely contracted; yet the Bath has cured both Solutions, and Contractions, which being contrary Operations, is past my Philosophy to find out how, &c.

Indeed when Men will Bathe that are of Plethorick Habits, and Sanguine Constitutions, with a Cargo of Wine, and good Chear in their Bellys, without emptying, or any medical Preparation, &c. And what great Cures have been, and are daily made by drinking the *Bath* Water hot from the Pump, *Res ipsa loquitur*; for the Cures would speak themselves, were Men mute: for the Fame of those Streams have not only run all the Kingdom over, but even beyond Sea too.

8. And here I must subjoin two most wonderful Cures done this last Summer; the one on a Lady of Quality, Madam B. who lay at Mrs. *Cranfield's* House near the Market-Place. Her Case was so deplorable, through a weak and decay'd Stomach, of a long standing, that she loathed every thing she either smelt, or saw, and so weak, and feeble, she could scarcely stand: she vomited every thing she took, whether Liquids, or Solids, and melancholy to a strange Degree; and emaciated to Skin, and Bone; she took little, or no rest, her Pulse hardly perceptible, her Eyes sunk, often Ructations, and sometimes Cholick Pains, accompanied with Splenetick, and Hyfterick Fits, and generally clammy cold Sweats on her Head, Face, Arms, and Hands; insomuch, that she, and all her Servants thought she

she could not live a Week. Being sent for to her, and finding her so extreamly weak, and under such a general Disorder of the whole Frame, gave her at first a small Quantity of *Bath Waters*, with Bitters, and increasing gradually the Quantity hot from the Pump she was perfectly cur'd. The Lady *Lloy'd's* Case was exactly the same, and recover'd in the same Manner.

10. But now as to the other Lady's Case, I mention'd she was brought to the *Bath in extremis*, with all the frightful Symptoms of Death upon her, visible in the ghastly Look of her Face, accompanied with Dispondency, Sighing, Swooning, *Singultus*, and Convulsions, with an universal Atrophy, yet by the due Care, and the powerful Virtues of the warm *Bath Waters*, by slow, and gentle Steps, by gradual Accessions, in the Space of six Weeks she acquir'd such a Stomach, such a Constitution, that she danc'd in the Town Hall; nor did she receive her Cure only by drinking, but was comforted and refreshed with the mild and gentle warmth of the cross Bath; for Bathing in many Cases is of wonderful Use, as in Cholicks, Gripes, Scorbutick Atrophies, Cramps, and all stiffness of the Limbs, and Joints; so that there are few Cases, but where moderate Bathing may be join'd to Drinking to finish, and compleat a Cure.

20. And I knew an old Physician that held the Drinking a Glass of warm River, or Spring Water (that would lather) a little before Dinner, as a great Secret, both to prevent, and cure the Stone, and I think I have read some such thing in *Baglivi*, the now Popes Physician.

Bay-

Baynard and Floyer of the Pox and Leprosie.

I Have known many times that violent strong Purgings with Aloes, Scammony, Rez, Jalap, &c. together with Terebinthinate Medicines have heated, and done much Mischief to the inflam'd, and tender Nervous Parts, and often cause swellings of the Testicles, together with unapt, or untimely Injections; Mr. *Fuller* an eminent Apothecary in the *Strand* told me of his own knowledge in many Cases; as also did the late Dr. *Hobbs*, and I have observ'd divers Times in my own Practise, and Experience, that such Tumors, and Venereal Swellings have render'd Men infertile, and incapable (ever after) of begetting Children, not that this always holds true in every Monger, for some strong young Mongers of good Constitution have brush'd through such Misfortunes, and after it begotten Children, but with great Diminution to the Venereal Pleasures, and Delights as before; the Organs subservient to those Exercises, having been shak'd, and batter'd in their unclean Combats, &c. but in most Men it has totally destroyed Prolification, a Curse half *tanti* to Castration: so that I have often pitied poor innocent young new married Women, who have heat, and stew'd themselves in hot Baths, Season after Season, these unhappy Women thinking that the Deficiency lay on their Side, were willing to under-

undertake any Toil, and Trouble in hopes of a great Belly, &c. when alas the Fault was in the vile, and wicked whoremasterly Husband, broke, and bankrupt in his Bed-tackle, and this is the Reason of so many miserable, and unhappy Marriages, for *Venus rara, cum re angusta domi* &c. makes Women ramble in Quest of those Satisfaction which both Art, and Nature in a warm Constitution incessantly prompts them unto. So that Fathers cannot be too careful in matching their Daughters to Men of untainted Reputation, and Honesty, and also of promising Ability.

97. But because of the many Cheats that have been even in the fairest Bunks of Men, and the difficulty in discovering the Scars, and Cicatrices of secret Sins, which Men with the greatest Artifice cover and conceal, &c.

Postscript of Baynard and Floyer, p. 70.

AND I must say that through the many miserable Spectacles, and such deplorable Cases I have seen, that Poxes, and Claps, &c. is the greatest Curse that can befall a Man in this Life, I here declare as old as I am, rather than have an Infirmary in that Corner of my Microcosm, I would chuse to be hang'd this Moment; for Man does not only ruin himself but docks the intail of his own Blood, and brings a *ne plus ultra* on his Family, so that
one

one false Step in the whoring Adventurer is the Ruin of the whole Cargo of Boys, and Girls, and therefore *Sylvius's* Definition of the Pox was the best I ever met with, having Brevity, Perspicuity, and Verity, where he calls it *Flagellum Dei in Scortatores*.

And the Profane Orators, and Poets, as well as Sacred are full of Whip-Cords, and Lashes at this Sin. I might here enlarge, but the Groans, and Miseries of such Shoals of perishing Wretches, abandon'd by their Friends, expos'd to Ditches, Dung-hills, and at the best, to Hospitals are rotting Instances of Venereal Venom, and most deplorable Commentators on this sad Text, *viz.* their Strength is given to strange Women, and their Years unto the cruel.

So here I shall cease this unfavoury Subject, and conclude with a few Lines dehortatory from whoredom, and its fatal Consequences.

View yonder Shoar where *Venus* came at first, }
 See! all the wretched Whore-wrack'd Sons of Lust, }
 When blasted Strength, lies in its Manhood curst. }
 View yonder Bay, that many a Load encloses
 Of pumic't Shin Bones, and the Shells of Noses;
 And in yon' Hospital there does survive
 The Remnant half, of half that rot alive,
 With Buboës, Blanes, cavernous running Holes,
 'Twould clap the Devil for to fetch their Souls.

Of

Of Leprosy and Pox, p. 8.

THE Leprosy was formerly more frequent in *England*, as appears from *Cambden* in his Description of *Leicester-shire*, where he informs us that the Leprosy about the beginning of the *Normans* spread all over *England* by Infection, and that that Age supposed it to come from *Egypt*, as it did in *Pompey's Days*, &c.

9 The Leprosy might probably be the present Pox, which spread all over the World, one would be apt to suppose that 'tis a Species of the Leprosy, describ'd by *Aretæus*, who mentions many Symptoms of it, as the Pains, Scabs, loss of the Nose, and Corruption of the Extremity of the Body. And *Philo* affirms that the *Jews* were subject to an Anthrax, or Carbuncle on their *Penis*, for which Circumcision was useful.

97. But where Love, and Ability on both Sides concenter in Virtue, and Fidelity, their Minds are made one, and it is a Marriage of Souls as well as Bodies, and such a blessed State is the Suburbs of Heaven, even in this Life. And he that would marry under any Venereal Circumstances, or Pox his Wife after he is marry'd to her, should have a Brand of Infamy upon his Name for ever.

35. Hot Baths extenuate, and cool them who use them fasting; for by the heat they evacuate the
Serum

Serum out of the Body, and that being evacuated the Body is cooled: But if we use them after eating, they heat, and moisten by rarifying the great Quantity of Humors, and swelling up the Habit of the Body.

38. I think Bathing is most properly called the Fomentation of the whole Body.

41. The Parts of the Body which are naturally cover'd, are pleas'd with Heat; such as the Brain, Nerves, Back-Marrow, the Breasts, Loyns, Stomach, and Hypochondrias, and the Flesh, these being us'd to a moderate Degree of Heat, are much offended by Cold.

42. I will describe the Effects of Heat upon diseased Bodies; the hot Fomentation of the whole Body, or of it's Parts (and the same is the effects of Baths) mollifies the Skin which is too hard, relaxes the Tense, because Heat rarifies the Humors contain'd in the Vessels, and thereby mollifies it; relaxes the Skin by mollifying it.

43. Heat discusses Winds, therefore cold increases them. A moderate Heat increases the flesh, and Cold shrinks, and hinders it's growth, because it repels the Circulation inward; but Heat attracts it outward, and thereby softens.

44. Heat recalls the Colour, Cold makes the Skin very pale like Millet, or a Goose Skin.

Hot Fomentations of the Head, or other Parts occasion Sleep by exhausting the Spirits, therefore Cold will hinder Sleep; Heat cures Spasms, and eases the Pains of Cramps, and all Pains of the Eyes, Ears, &c.

This it does by discussing the rarified Air which causes those Diseases; cold Fomentations increase all those Pains. Hot Water agrees with the Eyes pained with sharp Rheums, and all Dryness, and Ulceration of them.

45. Heat promotes Suppuration, and Cold hinders it by stopping the Afflux of Blood, and the Rarification of Humors.

Heat mitigates febrile Rigours, Distentions, and Convulsions, and Heaviness in the Head, all which Cold increases; Heat helps Hardness of the Limbs after Inflammations, or Contractions. Heat is proper for Fractures, Luxations, Wounds in the Head, for bare Bones, and Ulcers which do not bleed, for all the Parts ulcerated by cold, for the eating Herpes, and Blackness of the Anus, Gums, and Uterus, Cold is injurious to all these, and offends Ulcers.

Hippocrates advises us to be more careful in the use of cold Things than hot, because it is less agreeable to our Natures.

Floyer, and Baynard of Longævity, p. 229.

ABout two Years and a half since, going into the North Country, and lying at *Northampton*, I desir'd my Landlord of the Inn to shew me the famous Old Man so much talk'd of.

231. This Old Man, whose Name was *John Bales*, told me, that he had buried the whole Town of *Northampton*, except three or four, twenty times over; Strong Drink, quoth the Old Man, kills them all. He told me he never was drunk in his Life, and that Water, small-Beer, and Milk was his Drink, sometimes mix'd, and that his Food was, for the most part, brown Bread, and Cheese; he cared not much for Flesh-Meats. He was a sensible Old Fellow, and no Disease but Blindness; his Age was about one hundred twenty six, or, as some say, one hundred twenty eight.

This Old Man sold Buttons, and at a hundred Years of Age used to keep *Wellingborow*-Market, and most commonly walk'd thither, which is seven Miles, he eat Flesh then, and drank Ale when he could come at it free cost. I conversed with him often: the last time I saw him alive was at *Northampton* mineral Waters, which were then in such Repute as to bring a good Appearance of Gentry,
his

his Business there was to beg Money of Strangers. I sat down by him, and ask'd him if he came there to drink the Waters, he told me he had rather drink Ale, and that the drinking of Water was a new Fashion, and not in Use when he was a young Man, he had seldom, or never us'd any Medicine, but was let Blood 2 or 3 times.

I desir'd his Daughter to send for me when he died, which she did, but before I came there the Physicians, Apothecaries, and Surgeons had carry'd away the major Part of his Internals. The Body look'd with as good a Colour as ever I saw: pure white and red.

His Daughter told me that Bread, and Butter with Sugar on it, and Milk was his chief Diet the two last Years of his Life.

GUIDOT, of the Right Uses, and Abuses of Bathing.

p. 83. **A**ND as Water was the antient Drink before Wine, and other Liquors were invented; and rational Creatures not so well improv'd; did in some things do the same with Brutes; which drinking cold Water, and in great Heats entering Rivers, did satisfy Nature in what was required, so cold Bathing, or the *Psuchrolusia* before the *Thermæ*, or hot Waters were sufficiently known, did
with

with greater Ease obtain among the Antients 'till a more rational Account was given of the hot Waters, and their Uses, &c.

I shall observe a Part of a Sermon of Dr. *Sharp's*, late Lord Arch-Bishop of *York*, the 5th Edition, Sermon 7th. p. 210. It is certainly very lawful for a Man to drink Wine, and strong Drink, not only for his Health's Sake, when his Constitution doth require it; but also for chearfulness, and the enjoyment of his Friends. Sermon the 3d. p. 103. Go thy Way, eat thy Bread with Joy, and drink thy Wine with a merry Heart, for God now accepteth thy Work.

GUIDOT of the Right Use, and Abuse of Bathing, p. 61.

THE Story of the *Venetian* Virgin is as notorious, as that of the *Ephesian* Matron: she swallow'd a Silver Bodkin four Inches long, which remained two Years within her Body, without Offence, and afterwards voided it by Urine, crusted over with a stony Matter.

This is mentioned by *Schenfius*, *Sanctorius*, *Paræus* and others.

Hairs have been often voided by Urine, Parfly-Roots, Fungus, Flies, Anniseed, Winter Cherry-Stones, Barley-Husks, small Coal, green Herbs.

62. I could cite Authors for every one of these Particulars, if I thought it necessary; but I now forbear.

Mr. *Wise* of *Yardlington* in *Somerset-shire*, subject to Gravel, and Stone, made use of a Catheter to put by Gravel, or Stone, without which he could make no Water; after some Time made use of a Willow Stick, because it was more easie: about an Inch and half of the Stick broke off, was left in the Bladder, and remain'd seven or eight Months, his Pains were so great he sent for Mr. *Pye* (an eminent Surgeon at *Bristol*) to cut him for the Stone, he took out the Stick so petrify'd, that it was as hard as Stone. Mr. *Sampion Boys*, Surgeon at *Sherburn* in *Dorset-shire*, was at the Operation, and gave me this Account at *Bath*, Oct. 29. 1732.

Etmull. p. 524. *Balnea etiam in Contracturis Scorbaticis, item in doloribus Scorbaticis, imprimis Abdominis, sunt egregia.*

Item Luta Thermarum in ipsis Thermis applicata Scroto usurpantur, p. 531. de Semin. Gener. laes. Nec Thermarum usus ad exulcerationes Vesicae, & Renum negligendus. Conf. Scholz. 388.

Dr. John

Dr. John Wynter, p. 50, 51.

ARE the Virtues of our Baths evaporated, or diminish'd by length of Time? or does variety of Seasons affect them? or have our Magistrates suffer'd any to dig so near, as to let other Springs into them? or are the decent Conveniences for Pumping every Part of the Body destroy'd? Can we not when need requires, make the King's Bath so intensely hot, as is scarcely to be borne, by stopping in the main Spring? Are there not yet remaining Passages, from many lodging Houses, that lead into the Kings, and Queens Baths, which might serve to prove, if Proof did not abound, the Ancient Custom of Bathing; the Hinges of whose Doors are now grown rusty, the Steps whereof are mark'd by no Bathers Feet, and the Houses fallen more than half in their Value, and Request.

What is become of that Forest of Crutches, which, in Testimony of Thankfulness for the Benefit receiv'd, was hung up in Mid-Air, like *Semiramis's Groves*, and afforded a no less beautiful, and pleasing Prospect?

*a Et tumida insanos imitata Semiramis ausus,
Qua medio virides suspendit in aere lucos.*

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Dr.

Dr. John Wynter, p. 52.

Surely Human Nature is not become so base, and ungrateful, as for Men to conceal their Cures, or there are fewer perform'd at present, than heretofore, when there was no other use made of these Waters, but that of Bathing.

I would have it consider'd, that the Manner of living among us, is so improv'd in Luxury, as to Eating; the Wines in Request so spirituous, searching, and inflammatory; and the generality of good Livers, so indolent, and unactive; that now, if ever Apoplexies, and Palsies must increase, both in number, and violence of the Stroke; not to mention the great Crop of Paralyticks that daily spring up among Tradesmen, from the Necessity of their ordinary Employments; such as Silverers of Glafs, Colour-Grinders, Pewterers, Chymists, &c. Not to detain you with the Multitude that fall into this Disease, by taking mercurial Nostrums, from ignorant, and boasting Quacks, give me leave, to point out to you the vast additional Import of Palsied, from all the Islands of the West *Indies*.

53. Now the Palsies of such Tradesmen never fail of a Cure by Bathing, and that not barely a first, but a second, nay, a third Time of their unavoidable Calamity. The ill Effects of Mercurials taken inward-

inwardly, are also reliev'd by the same Method, and for the same Reasons; nor does the West *Indian* scarce ever repent of his Voyage, if he is suffer'd to Bathe, notwithstanding his Sort of Palsie is a second Disease; because this is a Successor of the most painful Cholick imaginable; and you very well know, Sir, that even this Succession, now as it may appear to many, is taken Notice of by *Paulus*, and from him, I conceive, afterwards by *Avicenna*.

Sydenham, of Epidemick Diseases, p. 462.

BUT however it be, if the Disease, because of its Obstinacy does not yield to Chalybeat Waters, the Sick must use some hot sulphureous Waters such as is our *Bath*, and when he has us'd them inwardly, three Mornings following, the next Day let him go into the *Bath*, and the Day following let him drink them again, and so let him do by Turns, for two, or three Months; for in these, and in others of what Kind soever they are, this must be carefully observ'd, that the Sick must persist in the Use of them, not only 'till he receives some Benefit, but 'till he is quite well, that the Symptoms may not soon return.

Of cold Mineral Waters, not Purging.

IT is more than thirty Years since I observ'd the ill Consequences of cold Mineral Waters; I saw great Quantities of Gravel, and Sand evacuated at the Places, and more than twenty Persons assur'd me they were not subject to Gravel, or Stone, or saw any in their Urine, 'till they came to the Mineral Waters; after evaporating, I found exactly the same Species, which induc'd me to believe that these Waters rather caused, than cured a Stone; and it is contrary to Reason to imagine any Rough, Hard, Mineral Water to be a safe Medicine for a Person whose Kidneys are inflam'd by Gravel, or Stone. The Gravity, Asperity, and Crudity of the Mineral, or earthly Parts must be fatal not only to the Kidneys, and Bladder, but also to the Lungs.^a

^a Vid. Willis de Morb. Convulsivis, 202. In Sanguine praeservido, & spirituofo, ac visceribus calidis minime conveniunt. Porro in delicatulis & tenerioris constitutionis hominibus, periculum est ne Chalybis portuuncula, cum satis dissolvi nequeant tanquam Vitri ramenta Viscerum membranis impingantur, &que pertinaciter adherentes ulcera, & tormina lethalia producant, quod revera accidisse interdum novi.

Hippoc. de Aere, Aquis, & Locis. Calculo vero maxime laborant homines & ex renum affectionibus & Urina stillicidio, & coxendicum Morbo corripuntur, & Hernia, ubi Aquas omnigenas bibunt.

^a Vid. Bartholinus Riolanus de Metallicis, Lib. Cap. II. Differunt praterea quia Metallorum materia inepta est ad vitam participandam: nullum enim Animal, neque Planta ex iis nutritur.

I have seen great Quantities of Steel Powder evacuated by Urine from both Sexes, and red Wine immediately after drinking. *Vid. Pitcarn Element. Medic. Brev. Conspect. 192. Etmuller. p. 711, and 369. Sibbadin. Lib. II. Cap. 15. Lister octo exercit. Medic. de Calculo Humano 221, 227. Anodynus de Venenis, de Chalchantho, & Alumine, Lib. II. Cap. 14.*

I have had better Success with soft healing Roots, and Herbs; such as Marsh-mallow, and Mallow Roots, their Leaves, and Flowers, Comfrey Roots, white Poppy Seeds, the Herb Mercury, Oyl of Almonds, and Olives, the Roots &c, Boyl'd in soft Waters, and the Oyl added when cold, or drank alone, and sometimes Salt *Prunella*, with such like I have often given ease. See more of Gravel, and Stone in a compleat Treatise by Dr. *Nicholas Robinson*.

James Shipping of *Lacock* in the County of *Wilts* lost the Use of his Limbs, by lying on moist Ground; the Numbness so great, that he could not feel violent Squeezing, or Pinching. In this weak Condition came to *Bath*, and in a short Time, by drinking the Waters, and Bathing, his Limbs were restored, and he able to walk some Miles.

This was given to me by Mr. *Henshaw*, Apothecary at *Bath*, in *October 1732*.

Cures made lately at *Bath* in *Somerset-shire*.

THE Countess of *Castlemain* came to *Bath* in 1728. with the Jaundice to a very great Degree, when she had drank the Waters a few Days complain'd she was worse, but being perswaded to continue the Use of them, in a Months time recover'd her Health, and Complexion, and her Ladyship has continu'd in perfect Health.

In 1730. Mr. *Asb* a Member of Parliament in the West came to *Bath* with a stubborn Jaundice, which had so dispirited him, that he could not without great Trouble walk in his Chamber, in fix Weeks time was perfectly recover'd, and has continu'd so to this Time.

I receiv'd both these Accounts in *Apr.* 1732. from Mr. *Nash*.

Galen opera de cura icteri .116.

Deinde ire ad Balneum.

From Sr. *John Floyer* of *Litchfield*, and Dr. *Edw. Baynard* Fellow of the Royal Society. I was acquainted with the former, and often in Consult with the latter at *Bath*.

Of the Jaundice p. 201.

I knew a Physician that had a severe Jaundice with *Scirrus Hepatis*, was cur'd by the *Bath* Waters.

This

This last Summer Madam *Thistlewayte* a Daughter of Mr. *Thistlewayte*, of *Wintersloe* near *Sarum's Wiltshire*, receiv'd a great Cure by the *Bath Waters*, joined with some other *Aperitives*, in as high a Jaundice as ever was seen, which had long seized her, and she a very lean, emaciated, worn out, weak Woman. And in this Case, and also most Diseases of the Liver I think the *Bath Waters* the best Specifick in the World, if taken seasonably with due Preparatives and Advice.

Mrs. *Sarah Williams* of *Newland* near *Monmouth* in *Glostershire*, was seiz'd about the latter end of *September 1727*. with an *Hemiplegia*; she lost the Use of all the Parts on one side, her Body extreme weak, and emaciated, had an intermitting Fever twelve Months, continual Pains in her Head with frequent Purgings, and Vommitings. After she had endeavour'd a Cure by the best Advice she could get without Success, came with these complicated Cases to *Bath*. By the Assistance of Dr. *Bave*, drinking of the Waters, and Bathing, and repeating them yearly, went away perfectly recovered this Season, and has left a Crutch as a Monument for Strangers. Mr. *Seagre* Apothecary (with his Patients leave) gave me this Account on *June 20. 1732*.

John Wyrill Master of the *George Inn* at *Ferry Bridge* in *Yorkshire* about twenty two Years ago by a fall from his Horse, broke two Ribbs, an Arm, and Leg, also fractur'd his Scull, the Contusion, and Con-

Concussion so great as to cause violent Fits. By the Care of a skilful Surgeon all the fractur'd Parts were made whole, but he was in extreme Danger from violent Fits that daily attended him, he fell down as often as the Fits seiz'd him. The Physicians, and Surgeons advis'd him to go to *Bath* in *Somerset-shire*, although he was emaciated to the last Degree. In this weak Condition he was a Patient to Dr. *Cheyne* who advis'd (after due Preparations) to *Bath* and drink the Waters as often as his Strength would bear: sometimes his Fits would come while Bathing, and the Guides carry'd him out seemingly half dead. He continu'd Bathing and Drinking the Waters sixteen or seventeen Weeks, and went home perfectly recover'd, never relaps'd, and is now a strong nimble Person, as sound as any Man. I lay at this Inn Aug. 16. 1732. in the Road to *Scarborough*, and receiv'd these Particulars from himself with leave to publish.

Mr. *Mitchel* an eminent Merchant at *Leghorn*, Nephew to Sr. *Gilbert Heathcott*, about twenty two Years since riding a vitious Horse was thrown against a Brick-Wall, by which he was very much bruised in his Head, he lay senseless and stupified several Days, there was neither fracture, nor fissure to be perceiv'd; Dr. *Radcliffe*, and Surgeon *Bernard* were first consulted, and they being the most eminent in their Faculties at that Time, could not attend daily, and this Gentleman was under the Care of Mr. *Fern* one of the present Surgeons of St. *Thomas's* Hospital and my self, we went together for several Weeks,
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and gave account of our Proceedings, consulted them as often as convenient, at this time Mr. *Bernard* told us that once he had a Patient kill'd by a fall from his Horse, and himself and several others open'd his Body, and examin'd the Parts, and particularly the Head, could find neither Fracture, Fissure, or Contusion; concluded that barely a violent Concussion was the cause of his Death. Supposing this Gentleman's Case chiefly a violent Concussion; yet all the means us'd for a long time did not prevent the ill Consequence of Symptoms, like a Paralytick Person. His Mouth, Eyes, and Limbs contracted, his Memory almost lost, after we found all means us'd ineffectual, it was agreed he should go to *Bath*, I waited on him, and stay'd some Months, in that time he surprizingly recover'd, and all Parts much better: I advis'd him to repeat Bathing, and drinking the Waters, which he did some Years, and so perfectly recover'd as to marry a young Gentlewoman, and had several Children by her. He settled afterwards at *Leghorn*, as a Merchant and Factor to the *Turky* Company. But after the Death of his Wife, and some Business in the South-Sea Affair, he return'd again into *England*; and complain'd these Troubles had made a Relapse; chiefly his Memory was a little impair'd, he consulted me, and I advis'd Bathing again, which he did with good Success. I believe from his Fall to within one Year of his Death he was my Patient twenty Years, and very often relaps'd by not being so regular as he ought; but Bathing never failed of making him fit for any Business, as a Merchant. He was tempted

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to accept of a publick Employment, and the last time I waited on this Gentleman found him auditing the Accompts in the *East India House*, for the Company, with Letters, Books, and Papers enough to shock the strongest Brain in the World, Sir said I, this Troublesome Office will soon be your Death, and the Consequence was accordingly. Those Persons who undertake to act in such Offices should always have a clear Head, or they certainly are instrumental to shorten their Days.

Mr. *Wilmot* of *Beamester* in *Dorset-shire*, thirty four Years of Age, taken with griping Pains in his Bowels, lost the Use of his Limbs, and so weak all over his Body, that he was brought to *Bath* in a Horse-Litter; after Bathing, and drinking the Waters the first Season he return'd back in a Coach a little better; the *August* following came to *Bath* again in a Chair, and receiv'd more Benefit; the third time came on Horse-back, Bath'd, and drank the Waters all the Seasons, and is now so well recover'd, that he walks well, makes no complaint of any griping Pains, continues Bathing to prevent a Relapse. He gave me this Account himself at Mr. *Griſts* Apothecary where he lodges, on *May 7th*. 1732. Dr. *Cheyne*, and Dr. *Oliver* were his Physicians.

Mr. *Birch* of *Bristol* Dyer was taken with a violent Disorder in his Bowels, extreme sick, and very much grip'd, and in a short time after lost the use of his Limbs, came to *Bath*, and by drinking the

the Waters, and Bathing for about three Years recover'd; but being concern'd in making of white Lead, he relaps'd, and is come again to *Bath*, on the 5th. of *May* 1732. I Bath'd with him, and he seems to be in a Way of recovery. He gave me these Particulars at the time of Bathing.

It was no Wonder he relaps'd, for that Trade is sufficient to bring a new Disease.

Mr. *Cockburn*, one of the Lords of the Admiralty, in the Year 1727. was taken with extreme sickness, and vomiting, and such convulsive Motions, that he could retain nothing long in his Stomach. This continu'd several Months, then lost the Use of his Limbs, in this Condition he set out for *Bath*, so weak that his Friends thought he must die on the Way. The first Glass of Water he drank at *Bath*, agreed with him so well as not to vomit, and in two or three Days could eat a little; on the 4th. Day his vomiting return'd, and he was so weak that there seem'd to be no hopes of recovery. Notwithstanding on the fifth Morning he was carry'd to the Pump, and the Water, drank there, had it's desir'd Effect, and again stay'd his vomiting, and what he eat for ten Days together began to give him a little Nourishment. In three Weeks he was able to go with Crutches, in a fortnight more he walk'd with two Sticks, and very soon after entirely recover'd, and has continued so ever since. Dr. *Cheyne* was his Phyfician. This I received from Mr. *Nash* in *April* last 1732.

It is about twenty Years since Mrs. *Pleydwel* near *Wotten Bassett* in *Wilt-shire* lodg'd in *Westminster*, and at that time she was pleased to consult me. This Gentlewoman had by some Accident a cutaneous Disease, the Eruption seem'd to be no worse than a common Itch. She had consulted a Person, that found it troublesome to cure her in the common way, and therefore us'd a mercurial Ointment, which occasioned a light Salivation, and being injudiciously treated the Disease was not only made worse, by the crude Mercury, but many ill Symptoms succeeded; which I have known very often from mercurial Unguents.

When I first saw her nocturnal Pains, and violent Itchings tormented her to such a Degree that all Parts of her Body suffer'd extremely. By the use of lenitive Purges, Diaphoreticks, and Wood Drinks, &c. in about six Weeks time I prepar'd her for the *Bath*. The first Season by drinking the Waters, and Bathing, she was much better. I attended at *Bath*, and waited on her often, desir'd she would at proper Seasons repeat Bathing, and drinking for some Years, which she did at least three or four Seasons, by which her Pains gradually abated, her Skin clear from any Eruption, and continued so for many Years.

Mr. *Demock's Wife* of *Glocester*, Mercer, was seiz'd suddenly, with a violent Fit of Sicknes, which in a short time so stupified her Head, that she lost her Senses, and Memory; and after some time the Use of her Limbs, the Fingers and Toes contracted, and
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continu'd so for about four Years. Coming to *Bath* she receiv'd some Benefit the first Year, and by coming every Year to *Bath*, and drinking the Waters, and Bathing at the most seasonable times, she has perfectly recover'd her Senses, and loss of Limbs. I conversed with her some time, and saw her walk, and Bathe. I receiv'd these Particulars from her on *May* the 4th. 1732. with leave to publish the Cure.

She intends to continue Bathing to prevent a Relapse, which in such an extraordinary Case, I confirm'd to be needful.

Tho. Giles, a Barber, about 27 Years of Age, three Years since was indispos'd at *Tunbridge*, and by an Accident took a large Quantity of Laudanum, which stupify'd him to such a Degree, that neither cupping, or blistering, &c. could recover his Senses from *Tuesday* to *Friday*; the Consequence was an entire Loss of the Use of his right Arm; he came to *Bath*, and the Physicians advis'd him to drink the Waters, and Bathe, which he did very often, and found no Benefit the first Year. The second Year he Bath'd often, and by drinking the Waters at the same time recover'd him; he follows his Trade, and shav'd me dextrously, at the same time desir'd I would publish the Cure. *May* 3^d. 1732.

Mr. *Fleetwood* of *Liverpool* in *Lanca-shire*, about one and twenty Years of Age, had entirely lost the Use of his Limbs, consulted several Physicians before he came to *Bath*, without receiving any Benefit. As soon as he came there, he consulted a Physician

fician who prescrib'd proper Medicines to prepare him for Bathing, and drinking the Water: The first time he went into the Bath was so comforted, and his Limbs so restored, that he could walk half-way over the Bath, continu'd gradually recovering all that Season; visited the *Bath* two or three Years successively, and by repeating Bathing, and drinking the Waters was perfectly recover'd. This Relation I had from his Apothecary Mr. *Bave* in *May* 1732.

John Gale, a Drawer at the *Mitre-Tavern* in *Oxford*, had an Inflammation on one Finger, which by Degrees spread all over his Hand, with an Eruption of Pustles, and Blisters. He consulted Dr. *Frewin*, and two eminent Surgeons, also Mr. *Lasber* Apothecary, follow'd all their Prescriptions for more than a Year, took twenty mercurial Purges, Diet-Drinks, &c. used Fomentations, and Unguents without receiving any Advantage. Both Hands were ulcerated, and discharg'd such Quantities of sharp Humours, that no Bandage was sufficient to hinder the running through all. His Pains were now grown intolerable, and the Case thought incurable. Dr. *Frewin* advised him to go to *Bath*; he went and consulted Dr. *Bave* on *February* 14th. 1731. after due Preparation he drank the Waters, and Bath'd his Hands daily, till *May* 4th. 1732. and came away perfectly healed, with the Use of both Hands, and remains so. He gave me this Account on *Sept.* 15th. 1732. and desired his Name might be subscribed. *John Gale*.

Mary

Mary Davis, a Joyner's Wife at *Swansey* in *Wales*, lost the Use of her Limbs, so that she could not walk a Step; in this Condition she continu'd some Years. Was brought to *Bath* for a Cure; by drinking the *Bath Waters*, and Bathing two Seasons, she was perfectly recover'd.

Mr. *Baker's* Daughter of *Wellow* near *Bath*, had a Swelling like the King's Evil, with Stubborn Ulcers; consulted several Surgeons, without Success, came to *Bath*, and Bath'd, and apply'd the Mud, and Scum to the Parts affected, was perfectly heal'd, and remains so.

Mr. *Samuel Turner* of *London*, Brother to Dr. *Turner*, had the Jaundice to a great Degree, was almost black; by drinking of the *Bath Water*, and increasng gradually to two Quarts in a Morning was perfectly recover'd, and did not relapse.

About two Years since Mrs. *Mary Aspburst* of *London*, had such a Weakness in both her Ancles, that she could not walk; by drinking the *Bath Water*, and Bathing was perfectly recover'd.

Mary Leeson of *London* lost the Use of her Limbs, and this Season came to *Bath*; by drinking the Water, and Bathing, is in Health.

These five last Cures I receiv'd from Mr. *Rich. Merchant* Senior, at *Bath*, in Oct. last.

Mrs.

Mrs. *Reynell* of *Bristol*, a short Time after lying in, was seiz'd with acute Pains, her Hands, Legs, and Feet swell'd, and all Parts extreme weak, was under the Care of an eminent Physician without Success; came to *Bath* at the beginning of this Season, in a Horse Litter. By the Symptoms at first her Case seem'd to be a Rheumatism, but afterwards a Complication of Distempers. After due Preparation, she Bath'd more than twenty Times, and in *September* Bath'd three Times a Week, drank the Waters all the Time regularly; she is now perfectly recover'd, and on the twenty seventh Day of *October*, 1732, I saw her walking at a Distance from her Lodgings: at that Time she intended to continue Bathing, if the Season would allow of it.

Dr. *Oliver* was her Physician.

Of the Production, and Reproduction of
Forms. *Boyle p. 59.*

AND I am not without Probability inclined to believe, that several Minerals as well as other Bodies, which lie near the Center of the Earth, are rather the Productions of subterranean Fires changing the Texture of other Bodies than that they have lodg'd there, since the first Creation of Things; for we see that Lead becomes Minium, and Tin Tutty, in a very small time, and the Fumes of Sulphur uniting with those of Mercury convene into that delicate Red Mass called Vermilion which hath so far the similitude of Mineral, that it hath been call'd by the same Name of Cinnabaris: So that we may easily conceive, how in the Bowels of the Earth certain Mineral Fumes penetrating, and uniting with a stony Concretion, Minerals may be form'd: from whence it may appear, that Congeries, and Union of Accidents, is as sufficient to discriminate the several Species of Bodies, as the Imagination of substantial Forms. But illustrate the mechanical Origin of Forms, we may take Notice of the artificial Production of Vitriol, which is so like the natural that it makes us able to guess what Measures are taken in the natural Production of it, and since Vitriol is not a meer Salt, but rather (to

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use a Chymical Term) a Magistery, it is requisite to observe, that according to the Sense of that Word, it is prepar'd by a Separation of Principles, but by the changing the Form of a whole by an Addition, and intimated Union of a Saline Menstruum: Agreeable to which Notion it is to be noted, that an acid Spirit and a Metalline Substance, may be drawn as well from artificial as natural Vitriol: and consequently both must be natural Vitriol. But these are not the only Characteristick of the natural Vitriol; since Vitriol of *Mars* whether prepar'd by Oyl of Vitriol or Spirit of Salt, hath both the Colour, Transparency, Brittleness, aptness to Fusion, styptical Tact with the Vitriol of Marchasites, as also several other Qualities, as to turn an Infusion of Galls into Ink, a Vomitive Faculty when taken in small Doses, as also to be endow'd with Chrystalls, of very curious Figures, a Disposition to run *per deliquium* as *Guntherus Belichius* hath observ'd common Vitriol made use of in *Germany* to have; and here we see, that some Qualities may arise from the Union, and Association of two Ingredients, which are to be found in common Vitriol without the Incomprehensible Force of imaginary substantial Forms, or a Generation of a Form distinct from the Ingredients, and their usual Modification; or a Texture of Parts of convenient Shapes, and Sizes: neither is there such an intimate Mixture as the Schools imagine of these two Ingredients, but a *juncta* Position and new ranging of their Parts in respect of Order, and Position: which is evident since by Distillation the greatest Part

Part of the Vitriol may be drawn off, leaving the metalline Qualities behind, and that most of the Qualities depend upon the Position of its Parts is plain, since through a good Burning Glass the Sun-Beams will so alter their Order and Texture as to turn it Red. There are many Poisonous Mineral Waters, the Particulars of them shall be in the 2 Volume.

And to know whether Waters have Arsenick dissolv'd in them. *vid. Boyle 296.* To discover whether Mineral Waters be impregnated with Arsenick, or not, I put Dantzick, or English Vitriol into a Solution of it, either of which caus'd a dark præcipitate gradually to subside.

From my own Experience, and Observation after evaporating, weighing, and with different Ingredients by Drawing Tinctures, particulars too long for this place. I find the *Bath Water* in *Somersetshire* to be chiefly compos'd of Sulphur, and Nitre, so fine and volatile, that there are no Waters in *England* whose Particles fly visibly at the Fountain above the Glass as this does. The *Caput Mortuum* so transparent, and light that no ill consequences can be produc'd by Gravity, as to its being Chalybeat, or Bituminous either is very inconsiderable to the Quantity of Nitre, and Sulphur; and from these two in Water, and Air the Life of all Animals, and Vegetables depend.

Scarborough Water is chiefly compos'd of Nitre and Allom, with a little Steel, And though they are filter'd very fine through the Sands yet the *Caput Mortuum* is double the Weight of the *Bath*, it purges, and consequently may be good in some scor-

butick Cafes, and therefore lies very convenient for the *Scotch*, I bath'd in the Sea, and found it very refreshing, and there were some last Year who bath'd, drank the Water, danc'd at the Ball in the same Day fell under my Care. And if the Water was drank one Day, bathing in the Sea the next, and to go to the Ball the third might be much more agreeable. I should have given more particulars of this Water, but there is a Physician writing the History of all the Mineral Waters in *Torkshire*, *Derbyshire* and *Lincolnsbire*, to which I refer You.

Tunbridge Waters are chiefly compos'd of Steel, and Vitriol, and have a styptical Taft, in Relaxations, and Fluxes of Blood may be useful, and sometimes I have seen the Jaundice cur'd by them.

Holt Waters are compos'd of Sulphur, Nitre, and Allom, and I have known several Persons cur'd by them in some cutaneous Diseases, but if they were drank before the common time of Drinking the *Bath* Waters (I mean in the hottest Months,) and early in the latter Season to go to *Bath*, and drink the Waters at *Bath*; there not only the light but stubborn Cutaneous Diseases might be perfectly cur'd, and whosoever denies a Patient bathing if not inclining to a Hectick, or has a Flux of Blood, may very probably hinder the Cure.

Astrup, *Northampton*, *Wellingborough* and many others of that Kind in *Northamptonshire* are chiefly Vitriol, and Tincture of Stones, there may be a little Steel, in most of these Waters I find the *Caput Mortuum*, or Sediment to be very heavy, and if you lay Wood, or Leaves in a few Weeks they

they will be petrify'd, these may be us'd in Relaxations, and as a Styptick.

Inter Londinum & Northamptonium Urbes in Britannia, diocesi Lincolnensi fontem meminit Fulgosius, in quo projecta ligna intra annum Lapides fiunt. Vid. Bacc. Lib. I. p. 23.

Boyle of Forms and Qualities. Chap. I. p. 13.

THAT there are some Particles of Matter so small that though they be mentally, or by divine Providence dividible, yet are scarce actually divided by Nature; which in that Respect may be call'd *minima naturalia*.

2. That there are Multitudes of Corpuscles consisting of a Coalition of several of these *minima naturalia*, whose Bulk is so small, and adhæsiion so close that though not absolutely indivisible into the *minima naturalia*, yet very seldom are actually divided, and these are the Seeds, or immediate Principles of many Sorts of natural Bodies, as Earth, Water, &c.

3 That both the *minima naturalia*, and those Primary Clusters resulting from Coalition of them, having their determinate Bulk, and Shape when they are united the Size, and Shape by their *juxta* Position must be often alter'd, and oftentimes their tendency in, and to Motion vary'd; which Accidents

dents will also happen when they are disjoyn'd, by which Union, and Separation of Parts, the Size, and Shape being variously alter'd, are accordingly adapted to several Pores, upon which Account they have different Effects upon several Bodies.

Of Tea, from *Dr. Cheyne*, p. 63, 64.

WE know that warm Water will most of any Thing promote, and assist Digestion in weak Stomachs, and tender Nerves, and by this alone I have seen several such Persons recover to a miracle; when cold mineral Waters, Bitters, Cordials, and Drams have done rather hurt, than good. And Tea is but an Infusion in Water of an innocent Plant: Innocent I say, because we find by its Taste it has neither Poisonous, Deleterious, nor Acrimonious Qualities; and we are certain from its Use in the Countries it comes from (which are larger than most of *Europe*) they receive no Damage from it, but on the contrary, that it promotes both Digestion, and Perspiration.

And we see the *Bath* Guides, who dabble in Water almost as hot as Tea is ever drank, a great Part of the Day, and for one half of the Year at least, are no ways injur'd by it.

I add my own Opinion to this worthy Physicians. Drinking Tea, Balls and Assemblies are absolutely necessary to divert, and amuse the indispos'd, and pre-

prevent Diseases in Others, and I am sorry to find in some Places Men so miserably covetous, ill natur'd, and brutish as to deny their Wives, and Daughters this innocent, pleasant and laudable Custom: and not only so, but charge all the Accidents and Misfortunes of the Family on the Tea-Table, when perhaps they arise from the Mens Extravagancies in drinking whoring, &c.

Of Barenness.

Almost every Physician of Credit has recommended Bathing for barren Women.

Baccius de Thermis.

Insiqve vero vitium inter omnes uteri affectus sterilitas: quæ multas habet causas, perinde est durities, quæ sæpe uterus ex natura, sæpius vero afficitur ex accidenti; intemperies aut calida, aut sicca, lubricitas, fluor, mensum copia, nec minus suppressio; quæ omnes calida particulari opus habent considerationem; ac Balnei rationem postulant diversam præsertim in sterilitate.

A Gentlewoman was married twice, to the first Husband fifteen Years, to the second two Years, and had no Child; she was about forty four when she came to consult me at *Bath*: I advis'd her to bathe twice or thrice in a Week and by Degrees to use the hottest

hottest Springs. After bathing I prescrib'd that incomparable specifick call'd *Arbor Vita*, she immediately conceiv'd, and the Child is now living.

At the Time of Bathing in the Afternoon drink some Wine, which at the Queen's Head you'll find good.

With a few Friends, and a few Dishes dine,
And much of Mirth, and moderate Wine,
To thy bent mind some relaxation give,
And steal one Day out of thy Life to live:
Oh! happy Man (he cries) to whom kind Heaven
Has such a Freedom always given:
Why mighty Madam what should hinder Thee?
From being every Day as free.

Cowley on Liberty.

Aquam ex Arboribus Nasci.

The wonderful Property and Origin of
some Waters in the fortunate Islands.

THere are Trees in these Islands, that imbibe Water from stagnated Lakes, which when refunded into Wells and Cisterns changes its Quality, and there are no Rivers or Fountains for common Use. The Rains only make these Lakes. The Trees are of different Colours, white and black, the former when press'd is pleasant, the latter a bitter Water. The Inhabitants have always such plenty of these Waters as to serve for all Uses.

Ex

Ex foliorum internodiis aquam emittit, ac eam tanta copia ut universi Insule habitatoribus, nec non animantibus atque hortis sufficit.

This is attested by *Alexander Geraldin*, in his Travels, and writ by his own Hand. *vid. Pliny. Lib. VI. Cap. 32.*

Of Sea Water, and Lakes. *Bac. 229.*

THE Philosophers, and Physicians (says a learned Author) have hitherto rack'd their Wits to conceive how the Caspian Sea receiving the Waters of so many Rivers, and having no communication with other Seas should always continue in the same Condition without any visible Augmentation; but without having recourse to so many forced Reasons as have been given on this Subject. I see nothing to hinder why these Waters may not go off through the Bottom of the Sea, in the same Manner that they enter by the Sides; for since so many Lakes, and Pools form'd by Earthquakes leave us no Room to doubt but the Earth is intersected by Veins of Water, which communicate every where with the Surface; those Veins cannot all meet at the Bottom of the Sea; but to receive the Water of it, which they send out again upon the Land by innumerable Springs without the Circulation

lation of Waters, and if so many Rivers which on all Sides empty themselves into the Seas, should draw their Sources elsewhere than from the same Seas, it would be impossible but that the Earth would be overflow'd in less than a Year.

In *Grand Tartary* the Country of the *Moguls*, or *Callmaks*, there is a Salt Lake about three Wersts a Cross, from whence they take the finest Salt in the World, which the Sun in the Heat of Summer congeals on the Surface of the Water like a Crust full two Inches thick.

In *China* subject to the *Mungals*, the River *Hoanghso*, or *Cara Muran* is one of the greatest Rivers in the World, it rises out of a great Lake which is compass'd with high Mountains: the Water of this River is not good to drink for it is very muddy, inclining to a dark yellow, which bad Quality it takes from the Salt-Peter, wherewith the Mountains which this River, from its Rise 'til it passes without the great Wall are exceedingly stor'd. The *Chinese* have the Art of precipitating the Saline Parts of this Water, and making it drinkable by means of Allom.

Bitumen ἀσφαλτις ἀσφαλτῖς generally denotes all the Fat of the Earth that easily burns, it denotes also the Juice of stagnated Lakes, and Salt-Sea Waters, the best is from the dead Sea, call'd *Asphaltites*. There are different Kinds of which read *Schrod. Ch. XXIX*. These different Kinds from Earths, Stones, Lakes, Rivers, &c.

Galen says it comes only from Salt Sea Scum. The dead Sea *Corn. Tacit. Galen*, and Others say it is

a putrid, stagnated Lake, and Bituminous, Sulphureous, and Oyly Nature, not mov'd by Wind, no Animal, or Plant can live in it, salter than the Salt Sea and Bitter in Taste. *Quippe spumeum invenitur Liquidum, & Lapideum, Piccum, Cæreum, Mel-leum, Vinosum, Oleosum, Aqueum, splendens aliquod ut Gemma, aliquod nigrum, aliquod aureum, ut multis aliis modis. vid. Bac. de Therm. 180. Fontes Bituminosi in Judea, Cilicia, Media, Parthia, & Asia, &c. in Bac. and others shall be in my 2 Volume.*

The Lake of *Arall* is about 30 German Leagues in length from South to North, and about half so much from East to West. The *Cara Kalpaks* who possess the Northern Coast of the Lake towards the Mouth of the River *Sirth*, and the *Turkmanns* of the Country of *Arall*, convey in the Summer the Waters of this Lake, by Means of certain small Canals into the Neighbouring sandy Places, to such a height as they think proper, and the moisture of the Waters exhaling by Degrees with the Heat of the Sun, leaves at length all the Surface of those Plains cover'd with a fine Crust of Chrystalline Salt where every one goes and gathers as is necessary for the Occasions of their Family. The *Tatars Chowarazm*, as well as those of the *Casatsbia orda*, and the *Cara Kalpaks* have no other Salt but what is drawn from the Lake after this Manner.

Pag. 26. to 45. was taken from Dr. Lod. Rowzee at Ashford in Kent, 1678.

The Prayer p. 1. is from *Jones*, which he placed at the latter end of his Book. I made no other Alteration than setting it in the Front.

a putrid, stagnant Lake, and Bituminous Sulphur
teous, and Oily Nature, not moved by Wind; no
Animal, or Plant can live in it, unless upon the Salt
Sea and Bitter in Taste. *Sagittaria*, *Sparganium*, *Myrica*,
Liquidum, *C. Lappaceum*, *Horridum*, *Carex*, *Mel-*
lemus, *Potamogeton*, *Cyperus*, *Agrostis*, *Sporobolus*, *Al-*
pinus, *Setaria*, *Chenopodium*, *Amaranthus*, *Portulaca*,
found in Germany, *Chenopodium*, *Amaranthus*, *Portulaca*,
at *Wien*, *Wien*, *Wien*, *Wien*, *Wien*, *Wien*, *Wien*, *Wien*,
former Bituminous in *Judea*, *Chenopodium*, *Mel-*
this *C. Lappaceum*, *Sec. in Bac.* and others shall be in
my 2 Volume.

The Lake of *Asphaltum* is about 30 German Leagues
in length from South to North, and about half so
much from East to West. The *Cara Kaspia* who
possess the Northern Coast of the Lake towards the
Mouth of the River *Siva*, and the *Turkmenians* of
the Country of *Asphaltum* convey in the Summer the
Waters of this Lake, by Means of certain small
Canals into the Neighbouring sandy Places, to such
a height as they think proper, and the moisture of
the Waters exhaling by Degrees with the Heat of
the Sun, leaves at length all the Surface of those
Plains covered with a fine Crust of *Crystalline Salt*
where every one goes and gathers as is neces-
sary for the Occasions of their Family. The *Tatars*
Cheremians, as well as those of the *Calassians* order,
and the *Cara Kaspia* have no other Salt but what
is drawn from the Lake after this Manner.

Page 100 to 101 was taken from Dr. Keel. *Romance*
at *Asphaltum* in *Asphaltum*, 1788.
The Prayer p. 1. is from *Jones*, which he pla-
ced at the latter end of his Book. I made no other
Alteration than setting it in the Front.